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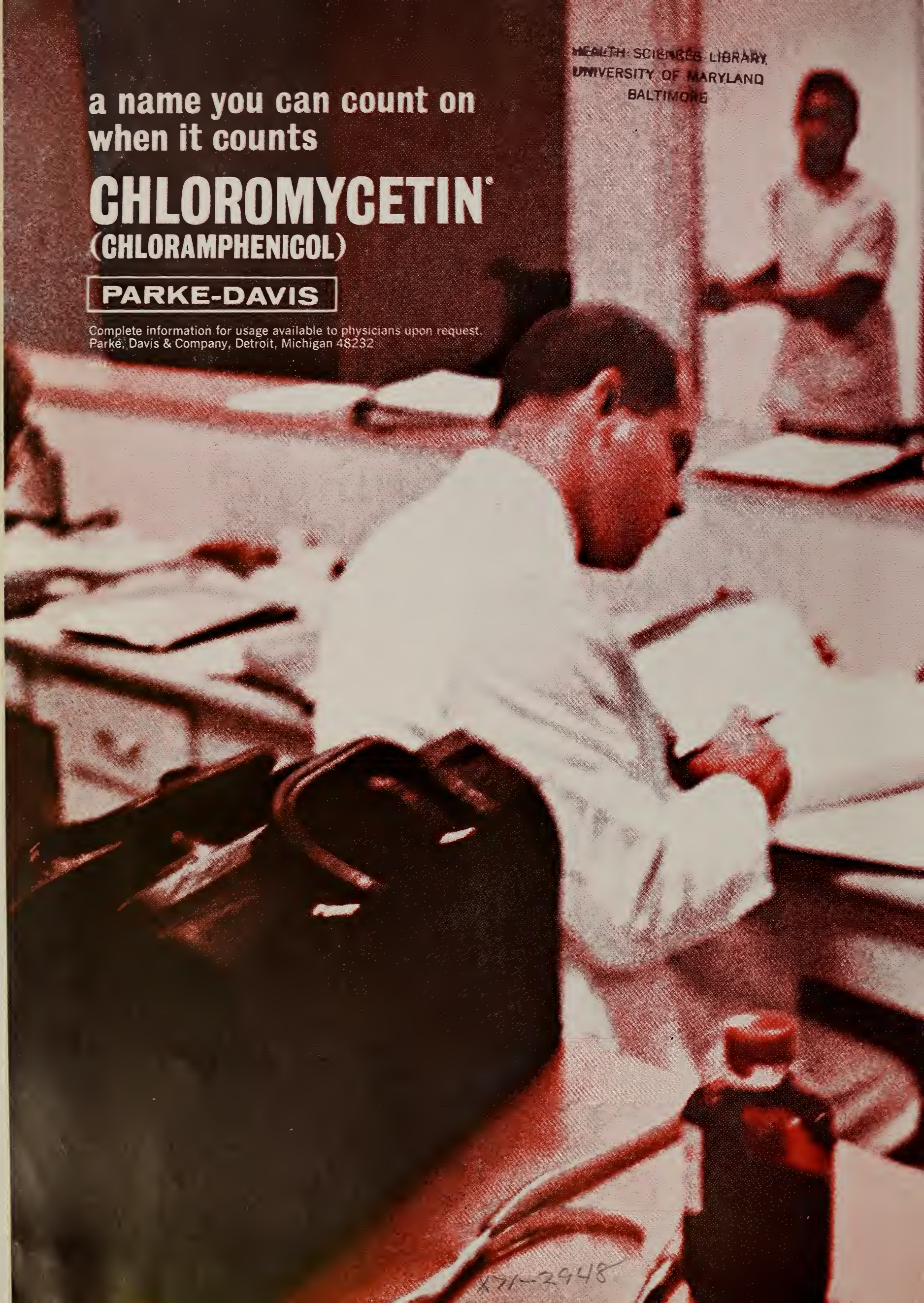

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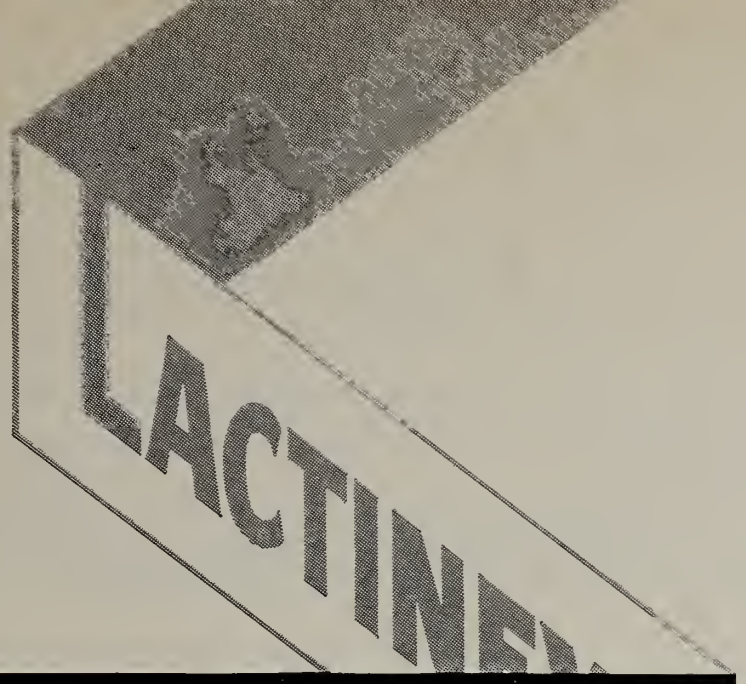

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JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
AND THE SIOUX VALLEY MEDICAL ASSOCIATION

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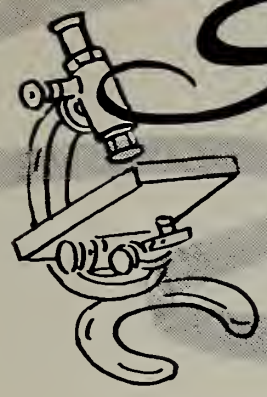

Scientific PAPER

RESULTS IN 2500 OPEN CARDIAC SURGICAL PROCEDURES

BY
Robert D. Sellers, M.D.*
Rudolph M. Ferlic, M.D.
Richard L. Varco, M.D.
C. Walton Lillehei, M.D.

The closure of a ventricular septal defect at the University of Minnesota Medical Center on March 26, 1954 was one of the major milestones in the development of cardiac surgery. At this institution, in the intervening years, over 2700 patients have been operated upon for cardiac or vascular lesions utilizing extracorporeal circulation. A number of reports[1] through [9] have dealt with the results achieved in various types of lesions. However, there has not been a comprehensive study of our total experience.

This report is a comprehensive study of the results of open cardiac surgery at the University of Minnesota Medical Center. Included are the types of cases and the immediate and late results in the first 2500 open cardiac surgical operations. No information will be included on the techniques of surgical repair or extracorporeal circulation.

METHODS AND MATERIAL

The 2500 open cardiac surgical operations carried out between March 26, 1954, and August 16, 1966, include 1773 (71%) procedures carried out for congenital cardiovascular lesions and 727 (29%) procedures for acquired cardiovascular lesions. The numbers and percentage of operations for each type of lesion are summarized in Table I.

TABLE I
UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC SURGERY
March 26, 1954 through August 16, 1966

Period	No. with Congenital Lesions	No. with Acquired Lesions	% Surgery for Acquired Lesions
1954-1957	386	26	6%
1958-1962	968	250	21%
1963-1966	419	451	52%
Total	1773	727	

Tables II and III summarize the number of operations for each of the major types of congenital and acquired cardiovascular disease.

TABLE II
UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
CONGENITAL CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Lesion	No. Cases
Ventricular Septal Defect	625
Secundum Type Atrial Septal Defect	354
Tetralogy of Fallot	335
A-V Canal	106
Aortic Stenosis	105
Pulmonic Stenosis	97
Other	151
Total	1773

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TABLE III

UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
ACQUIRED CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Lesion	No. Cases
Mitral Valve Disease	292
Aortic Valve Disease	250
Multiple Valve Disease	113
Aortic Aneurysm	34
Ventricular Aneurysm	13
Ventricular Septal Defect	4
Other	21
Total	727

The operative mortality reported in this study includes all deaths up to 30 days following surgery. Late mortality includes all deaths occurring 31 or more days after surgery.

RESULTS

The operative mortality in the 1773 operations for congenital cardiovascular lesions was 22.6% and in the 727 operations for acquired cardiovascular lesions was 39.7%. The late mortality in the two groups was 3.8% and 7.2% respectively.

The changes in operative risk for congenital and acquired cardiovascular lesions over the 12-year period covered by this study are summarized in Tables IV and V. The changes in late mortality are summarized in Tables VI and VII. Table VIII summarizes the changes in risk for patients undergoing repair of ventricular septal defects and Table IX the same data for patients with tetralogy of Fallot. The operative risk for patients having secundum type atrial septal defects repaired was 4.8% and has shown little change over this 12-year period. Those cases with secundum type atrial septal defects and normal pulmonary pressures without anomalous pulmonary venous connections were operated upon with a 1.8% operative mortality.

TABLE IV

UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
CONGENITAL CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Period	No. Cases	Operative Mortality
1954-1957	386	36%
1958-1962	968	22%
1963-1966	419	12%
Total	1773	22.6%

TABLE V

UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
ACQUIRED CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Period	No. Cases	Operative Mortality
1954-1959	82	59%
1960-1963	270	49%
1964-1966	375	29%
Total	727	39.7%

TABLE VI

UNIVERSITY OF MINNESOTA MEDICAL CENTER
LATE RESULTS FOLLOWING
OPEN CARDIAC PROCEDURES
FOR
CONGENITAL CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Period	No. Cases	Late Mortality
1954-1957	386	5%
1958-1962	968	4%
1963-1966	419	1%
Total	1773	3.8%

TABLE VII

UNIVERSITY OF MINNESOTA MEDICAL CENTER
LATE RESULTS FOLLOWING
OPEN CARDIAC PROCEDURES
FOR
ACQUIRED CARDIOVASCULAR DISEASE
March 26, 1954 through August 16, 1966

Period	No. Cases	Late Mortality
1954-1959	82	15%
1960-1963	270	8%
1964-1966	375	5%
Total	727	7.2%

TABLE VIII

UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
VENTRICULAR SEPTAL DEFECT
March 26, 1954 through August 16, 1966

Period	No. Cases	Operative Mortality
1954-1957	190	30%
1958-1962	319	16%
1963-1966	116	10%
Total	625	19%

DISCUSSION

The 2500 operations reported upon here were carried out on five surgical services by one of ten members of the surgical staff or 25 Senior Surgical Residents. The number of open cardiac operations has exceeded 200 per year since 1957 and has averaged 250 per year from 1959 to date.

TABLE IX
UNIVERSITY OF MINNESOTA MEDICAL CENTER
OPEN CARDIAC PROCEDURES
FOR
TETRALOGY OF FALLOT
March 26, 1954 through August 16, 1966

Period	No. Cases	Operative Mortality
1954-1957	81	43%
1958-1962	190	38%
1963-1966	64	28%
Total	335	38%

The simplicity of the repair of some of the congenital lesions plus the problems of providing extracorporeal circulation for larger individuals restricted the earlier procedures to congenital cardiovascular lesions. During the first four years of our experience 94% of the cases were operated for congenital lesions. With improvements in oxygenator design[10] and particularly with the introduction of perfusion hypothermia in 1959,[11] the number and percentage of patients undergoing surgery for acquired lesions increased. The development of technics for valve repair in 1958,[12, 13] prosthetic valves in 1960,[14] and ball valves in 1962[15] accounts for the increasing numbers of operations for acquired lesions and the decreasing operative risk. In the period from 1958 through 1962, 21% of the open cardiac operations were for acquired disease and from 1963 through 1966, 52% of the operations were for acquired disease.

The risk of surgery for congenital cardiovascular lesions (Table IV) has declined steadily from 36% from 1954 through 1957 to 22% from 1958 through 1962 to 12% from 1963 through 1966. The risk of surgery for acquired cardiovascular lesions (Table V) has also declined steadily from 59% during the early portion of our experience to 49% from 1960 through 1963 to 29% from 1964 through 1966. This decrease has been accomplished in the face of an increase in the difficulty of the cases being accepted for surgery. The factors contributing to this improvement include improved preoperative, operative, and postoperative management and better perfusion technics.

The recognition of the anatomical and physiological factors that increase the risk of surgery have resulted from improvement in preoperative evaluation of patients with cardiac disease.[16] Other measures such as digitalization, use of diuretics and the measurement of blood volume have allowed the patient to be brought to the operating room in the best possible condition.[17]

Understanding of the pathologic anatomy has improved as has the recognition of the importance of associated cardiac lesions. The techniques for repair of septal defects have improved and valvular prostheses have been developed over this period. The management of complete heart block with isoproterenol and subsequently with a myocardial electrode and electronic pacemaker[18] was very important in decreasing the risk of surgery for congenital cardiovascular lesions. The anatomical studies on the conduction system and techniques of repair based on these studies have almost eliminated surgically induced heart block as a problem. Finally the use of an atrial approach for high risk ventricular septal defects has further decreased the risk of surgery.[19]

Postoperative management of cardiac surgical patients has been simplified greatly by the use of blood volume determinations and monitoring of the central venous pressure.[20] The use of alpha adrenergic blockade with Dibenzaline has also helped in postoperative blood and fluid replacement.[21] Respiratory support with mechanical ventilation with either a cuffed tracheotomy tube or a nasotracheal tube left in place for 18 to 72 hours has been an important factor in improving the results in patients with severe pulmonary disease complicating their cardiac disease. External cardiac massage used in cardiac resuscitation has led to the successful resuscitation of 12 to 15 patients with ventricular fibrillation or cardiac arrest every year since 1959 in contrast to open chest cardiac massage which had been successful in only 1 patient in 10 years outside of the operating room.[22]

Improvements in oxygenator design[10] and improvements in the conduct of perfusion have led to decreased risk in open cardiac surgery. These latter include introduction of perfusion hypothermia[11] and hemodilution perfusion technics.[23] The addition of satisfactory coronary perfusion techniques and catheters have been important in improving the results following aortic valve surgery.

The late mortality following operation for congenital cardiovascular lesions (Table VI) has also decreased from 5% in the operations carried out from 1954 through 1957 and 4% in those from 1958 through 1962 to 1% in the ones from 1963 through 1966. This improvement may be related partly to the shorter period of follow-up in the most recent group but other factors include better management or avoidance of post surgical heart block[18] and improved surgical

technics which avoid persistent or recurrent septal defects.[19]

The late mortality following operation for acquired cardiovascular lesions (Table VII) decreased from 15% in those operated from 1954 through 1959 to 8% in the ones from 1960 through 1963 to 5% in those operated upon from 1964 through 1966. This decrease in late deaths is due to improvement in technic of valve repair[12, 13, 14] and the development of satisfactory valve prostheses.[15]

SUMMARY

Twenty five hundred open cardiac operations have been carried out at the University of Minnesota Medical Center from March 26, 1954 through August 16, 1966. This experience includes 1773 operations for congenital cardiovascular disease and 727 operations for acquired cardiovascular disease. In the period from 1963 through 1966, 52% of the procedures were carried out for acquired disease.

The operative mortality has fallen steadily in both the congenital and acquired groups in spite of an increase in the difficulty of the cases being selected for surgery. The decreased risk has resulted from improved preoperative, operative and postoperative management and improved perfusion technics.

The late mortality has also decreased following surgery for both congenital and acquired cardiovascular lesions. This has resulted from improved surgical technics and the development of satisfactory valve prostheses.

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MATERNAL DEATHS INVOLVING PARALYTIC ILEUS*

By the OSMA COMMITTEE ON MATERNAL HEALTH
A. Ruppersberg, Jr., M.D., Chairman
With Comment of Consulting Obstetrician and Gynecologist

Adynamic, or paralytic ileus associated with pregnancy or the puerperium is an extremely uncommon, but devastating complication. Usually, it appears following an abdominal operation, principally cesarean section. The Committee on Maternal Health reported only three maternal deaths (.0387 per cent) of the 779, covering a 10 year Survey[1] of Ohio Maternal Deaths, 1955 to 1964, due to paralytic ileus.

Herewith, the Committee presents the three cases; all three patients died following a primary cesarean operation, two of which followed long, unsuccessful labor. The third patient submitted to surgery after an accidental rupture of the amnion and prolapse of the umbilical cord.

Case No. 121

A 39 year old, colored, abortus I, cesarean I, died eight days postoperative (cesarean section). Her past history was noncontributory. She had a previous pregnancy which terminated in the 12th week as a "spontaneous miscarriage," without curettement. The details are not known. With her last menstrual period March 22, she registered with her physician and made 15 prenatal visits. According to the record there were no complications; heart, lungs and pelvis were reported normal. The VDRL was negative; blood was Rh positive. Weight gain and other details of the pregnancy were not known; prenatal care was considered adequate. Past term, the patient's membranes ruptured and she entered the hospital January 9 (42 weeks gestation) in early labor, at 1:30 a.m.

Details of the patient's progress the next few days were not available; however, x-ray of her pelvis was reported "adequate." Labor "progressed poorly" for over 29 hours; the presenting head did not descend nor did the cervix dilate. Medication included Nisentil®, Tuinal® and hyoscine given for analgesia. Four or five rectal examinations were performed by residents and a consultant. On January 10 a low cervical cesarean operation was performed under spinal anesthesia, administered by a physician, and a live baby weighing 7 lbs. 7½ oz. was delivered. Blood loss was not mentioned.

Vital signs and other details of the postoperative course were not recorded, however, the second day 1 unit of whole blood was given because of "mild shock"; also a cardiac arrhythmia developed. The fourth day abdominal distension indicated the beginning of a paralytic ileus which became progressively worse, in spite of "every adequate medical and nursing effort." Laboratory tests are said to have indicated signs of a moderate uremia. The ileus persisted, the patient pursued a downhill clinical course and died January 18. An autopsy was permitted but the report was not available.

Cause of Death (Autopsy): Paralytic ileus; Poss. ventricular fibrillation; (not mentioned, uremia).

Comment

Members of the Committee pondered over the available information in this case noting that certain pertinent facts were not reported. It was felt that sepsis (perhaps peritonitis) was present postoperatively, and the possibility of septic shock was projected "between the lines." It was not clear why the patient was allowed in labor 29 hours, without progress, before intervention; no vaginal examination was reported

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*A continuous state-wide Maternal Mortality Study is being conducted in Ohio by Committee on Maternal Health of the Ohio State Medical Association, in cooperation with the Ohio Department of Health and representatives of the various County Medical Societies. Summaries of some of the cases studied by the Committee, based on anonymous data submitted, are published from Ohio State Medical Journal from time to time, interspersed with statistical summaries.

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to confirm findings on rectal examinations. A question was raised concerning results of physical examination of the patient (e.g., heart, etc.) during the several days after her admission; likewise, urinalysis and hemogram studies. By a rather narrow margin, this case was voted a **nonpreventable** maternal death.

Case No. 321

This patient was a 26 year old, white, Para III, cesarean I, who died 10 days postcesarean section. Her past history revealed a severe attack of bulbar poliomyelitis at age 18; there was a residual complete bilateral paralysis of the lower extremities, and one upper arm, with weakness of chest and abdominal muscles and general debility. She had had two previous term pregnancies without complication, both vaginal deliveries. Prenatal care during the third pregnancy was considered adequate, with eight visits.

No complications developed until 2:00 p.m., September 26 (40 weeks gestation) when the amnion ruptured spontaneously, and the fetal umbilical cord prolapsed. There was no labor. Promptly, she went to the hospital where an emergency cesarean section was performed under the spinal anesthesia (7.0 mg. Pontocaine® in 10 per cent dextrose). A living 6 lb. 12 oz. baby was delivered at 6:10 p.m.; other details of the operation are not recorded.

Following surgery the patient was returned to her room in good condition, vital signs normal; she was started on a course of Ilotycin®, since she was unable to take penicillin. On the first postoperative day she received a liquid diet; her temperature was 99.2° and the urinary output satisfactory. The next day she developed nausea and (brown liquid) emesis with 99.2° temperature; each day she was allowed to be up in a chair. The third postoperative day nausea and emesis were less; a rectal tube and Prostigmin® were ordered.

Abdominal distension appeared on the fourth day; liquids, soft food and Prostigmin were continued. A rectal tube was utilized. Parenteral fluids were given on the fifth day, after a Levin tube was inserted. The temperature was recorded as normal. Progress was unchanged; on the seventh day an enema was fairly effective. The next day after removal of the nasal tube, a liquid diet was prescribed. Abdominal distension remained; the patient's extremities were mottled and cold. The ninth day was reported to be "good" with normal temperature and blood pressure. On the following day distension persisted, the patient vomited and a Levin tube was reinserted; she died at 11:20 p.m. There was no autopsy.

Cause of Death (Certificate): Paralytic ileus, postoperative 10 days; general debility and paralysis, postbulbar poliomyelitis; status postcesarean section, delivery of living baby.

Comment

The Committee voted this case a nonpreventable maternal death after a considerable discussion. Members regretted the lack of some pertinent details not available from the records, and raised several questions devoid of an answer: **(a)** why was a spinal anesthesia selected for a patient with residual paralytic defects following poliomyelitis; **(b)** was there a reason for waiting several days to commence gastric suction (the tube); **(c)** what attempts were made to ascertain and correct electrolyte imbalance; **(d)** several members wondered if the proper facilities were available to **perform** the cesarean section.

Case No. 670

A 37 year old, white, Para III, cesarean I, who died six days postoperative (cesarean). This patient's past history was not recorded; she had had three term pregnancies, all vaginal deliveries. In her fourth month she registered with her physician and made eight prenatal visits. The VDRL was negative; blood type, Rh factor and hemogram were not known. Outside of one blood pressure reported to be 142/80 (August 1) there were no complications of pregnancy. On August 7, at term the patient began labor spontaneously. She was admitted to the hospital at 3:05 p.m. in active labor, membranes ruptured. Records do not reveal the type of medication she received. After 12 hours of labor and a number of rectal and vaginal examinations (?) uterine inertia developed. X-ray studies revealed a flat sacrum and occiput transverse position of the fetal head. Consultation was obtained. "Early signs of toxemia" (?) had developed gradually.

On August 8, after further consultation, **a classical** cesarean section was performed under nitrous oxide and cyclopropane anesthesia (50 minutes) administered by a physician. A living 8 lb. 9 oz. baby was delivered in good condition. The operation was said to be uneventful (details not recorded). When the patient developed abdominal distension on or about August 11, gastric suction was started; electrolyte balance was maintained. But the patient objected seriously to the "nasal" suction tube, removed it, became disgruntled and failed to cooperate in any manner. The blood urea nitrogen rose, she developed (clinical) uremia, and died in spite of therapy on August 14. "Adynamia" was thought to be associated with (possible) mesenteric infarction. There was no autopsy.

Cause of Death (Certificate): Adynamic Ileus; uremia; embolic mesenteric infarction.

Comment

With considerable interest, members of the Committee reviewed this case, regretting that many pertinent details were lacking in the record, e.g., (1) The station of the fetal head and condition of the cervix, on admission and at various intervals during labor, as well as progress revealed after 12 hours of labor. (2) Was any medication administered during labor? (3) What were the findings indicating toxemia? (4) Was the toxemia treated? (5) Why was a classical cesarean section done in preference to a "low flap" type? (6) What early antibiotic medication (if any) was administered postoperatively, in view of potential infection? Much was made of the patient's uncooperative status; but members suspected that the patient was too ill to be cooperative. It seemed a Cantor or Miller-Abbott tube might have been useful; also some cholinergic drug given early, might have reduced the ileus. After prolonged deliberation, the Committee voted this a preventable maternal death.

Comment of Consultant

The following comment of a consultant, who is a specialist in Obstetrics and Gynecology, was furnished at the request of the Committee.

"These three patients died from peritonitis following cesarean section. They did **not** die of

paralytic ileus. It is unfortunate that pertinent details were missing from the (available) records making it impossible to pinpoint the exact cause of fatal peritonitis in these patients.

"Paralytic ileus or adynamic ileus is **not** a disease. As a signal, it is merely a physiologic response to peritoneal insult. It does occur in peritonitis; it can also occur in the absence of peritonitis when a patient swallows large amounts of air in the act of deglutition after major abdominal surgery. In this condition, peristalsis diminishes, or ceases. Its presence can be confirmed clinically by auscultation of the abdomen. This absence of peristalsis has been explained as nature's defense against intestines 'swishing about' in the presence of a leaking viscus. It is also nature's defense against localized infection becoming a generalized peritonitis. Peristalsis is normally accompanied by hunger, and a sense of well-being. It is trumpeted by the passage of flatus.

"Paralytic ileus is **not** synonymous with 'abdominal distension.' Board-like rigidity of the abdomen prevents abdominal distension immediately following the perforation of a peptic ulcer, although the abdomen is 'quiet' and the ileus is profound. On the other hand, marked distension is seen in patients with the classical hyperactive, mechanical bowel obstruction.

"The Committee, in respective 'comment' on each case, has portrayed most of the pertinent and illuminating problems developed in each patient. However, this consultant desires to point out several items:

"Case No. 121 reveals that the patient developed 'shock' (without mention of fever) followed by 'uremia', beginning on the second postoperative day. Probably, this was endotoxic shock, treated with the administration of a unit of whole blood, only.

"In **Case No. 321** was the dosage of Ilotycin **enough?** And I note that the patient was given a 'liquid diet' the **first** postoperative day, continued through the fourth day, in the face of 'distension.' Personally, I allow these patients to have 'tap water' only for the first 24 to 36 hours postoperative, advancing to liquids and soft diet **after** the normal recovery course is insured. The Committee's comments are extremely pertinent!

"Case No. 670 brings up the rationale and indication for the cesarean section. From the information available, one can only speculate as to the cause of the 'uterine inertia'; there is no clue concerning the station of the presenting part, nor the condition of the cervix. After a brief rest afforded by proper medication, labor might have resumed to provide a vaginal delivery. And again, why was the **classical** type of cesarean section chosen? Likewise, there is insufficient information available to make a diagnosis of toxemia, or a clinical basis for the uremia.

"In summary, it is impossible to state whether or not these three patients received adequate treatment for peritonitis. It must be remembered that patients still die from sepsis, despite the best consultation and therapy available. To prevent and overcome paralytic ileus, vigorous and prompt efforts to pinpoint the cause of peritonitis still remain the **most** important weapon! Only after this important initial problem is solved, can the acutely ill postoperative (cesarean section) patient be treated effectively. The next normal step consists in the administration of massive doses of antibiotics, specifically tailored to meet the sensitivity of the microorganisms recovered from the site of the infection."

REFERENCE

1. OSMA Committee on Maternal Health: Maternal Mortality Report for Ohio. A 10-Year Survey, 1955-1964. **Ohio State M. J.,** 63:323-332 (March) 1967.

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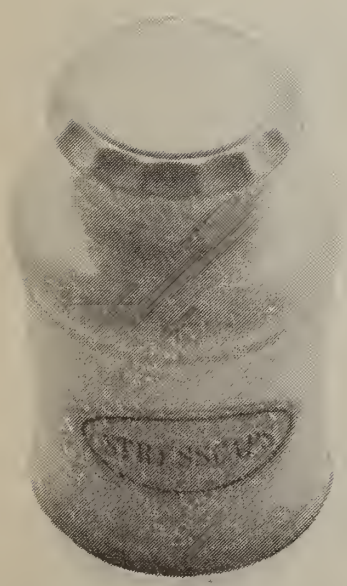

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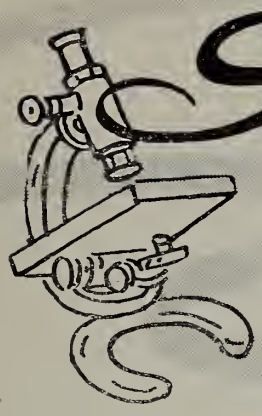

Scientific PAPER

SOUTH DAKOTA PRENATAL CARE STUDY
II. CERVICAL SMEARS

Brooks Ranney, M.D.*

Introduction:

Since Dr. Papanicolaou applied the technique of vaginal smears to the recognition of atypical cells from the human female, more than a score of years ago, it has been found that early cervical cancer and related cervical dysplasia will shed atypical cells which can be recognized by an experienced cytologist more than 90% of the time. (Conversely, abnormal cells from higher in the genital tract are recognizable in vaginal smears only 60% of the time, or less.)

Because of the frequency with which early abnormalities of the cervical epithelium will shed atypical cells which are recognizable, **screening** of all women of reproductive and menopausal age, by cervical smear, is a valuable procedure. When atypical cells are found, cervical **biopsies** must be carefully taken in order to obtain an accurate **diagnosis.**

Since cervical cancer can occur in women as early as late teens or early twenties, women of all ages should be permitted the advantage of yearly cervical smear screening. The first visit of a prenatal patient to her doctor offers an excellent opportunity to teach the patient the importance of yearly cervical smear screening. Likewise, it will yield a harvest of between 2 and 7 cervical cancers and a number of cervical dysplasias for every 1,000 pregnant women (the incidence varies with locale and clientele.)

Questions, Results, and Cross-Tabulations:

Because of the reasons noted above, the South Dakota Prenatal Care Study included two questions relating to cervical smears:

1. To the question, "During the past year, up to right now, have you had a vaginal or cervical smear (Papanicolaou, or 'Pap' test) performed by your doctor?" The response was as follows:
Yes—43.15% No—51.72% No answer—5.13%

2. To the question, "If no, have you **ever** had this type of 'screening smear' to rule out cervical cancer?" The half of the mothers who wrote no to the first question responded as follows:
Yes—10.41% No—37.11% No answer—52.48%

From these answers we may assume that almost half of these 10,523 mothers had had cervical smears; 43.15% had cervical smears within the prior year, probably during the first prenatal office visit.

*Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine; The Yankton Clinic, Yankton, South Dakota.
(Note: This is part of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetrics Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic; and which benefited from the invaluable assistance of Dr. Neil Palmer, from the Department of Sociology and the Computer Center at the University of South Dakota.)

Table No. 1
Age, and Cervical Smears
Have mothers had cervical smear within past year?
(Reported in %)

Ages	Yes	No	No Answer
1-18	31.27	58.19	10.54
19-20	35.54	55.33	9.13
21-22	39.16	55.52	5.32
23-24	44.80	51.16	4.04
25	46.08	49.73	4.19
26-27	46.21	50.31	3.46
28-30	46.40	50.68	2.91
31-34	46.39	50.27	3.32
35-47	50.41	46.72	2.85
No answer	38.75	27.50	33.75

Table No. 1 shows that whereas about 10% of the younger mothers did not understand or respond to the question on cervical smears, only about 3% of the older mothers were either uninformed or unresponsive concerning this important subject. Likewise, whereas half of the older mothers had had cervical smears within the prior year, only one-third of the younger mothers were so screened. One wonders whether the older mothers (or their doctors?) were more apprehensive concerning cervical cancer than were the younger mothers? Perhaps we should credit the association of age and knowledge with wisdom and judgment.

Table No. 2
Race, and Cervical Smears

Have mothers had cervical smears within the past year? (Reported in %)			Percent of "no" group who have **ever** had a cervical smear
Race	**No answer**	**Yes** **No**	
Negro	18.19	36.36 45.45	13.63
Am. Indian	11.45	48.99 39.56	7.94
Caucasian	4.30	42.87 52.83	10.68
Other	10.72	25.00 64.28	3.57
No answer	44.00	16.00 40.00	2.00

Table No. 2 shows that one-fifth of the Negro mothers, one-tenth of the Indian mothers, and one-twentieth of the Caucasian mothers did not understand or respond to the question concerning cervical smears. However, the highest percentage of mothers who reported having had a cervical smear during the prior year is among the American Indians. A majority of these patients had their prenatal care (and their cervical smears) in the five United States Public Health Service Hospitals in South Dakota.

According to Table No. 3 mothers who live conveniently close to medical facilities are more likely to have had a cervical smear within the last year than are those who live farther from

Table No. 3
Convenience of Medical Care, and Cervical Smears
Have mothers had cervical smears within past year?
(Reported in %)

Location of Residence	Yes	No	No answer
In a town **with** medical facilities	46.71	48.51	4.78
In town **without** medical facilities	42.27	54.19	3.54
On a farm	36.28	58.85	4.87
No answer	24.44	27.77	47.79

their medical care. One must remember, however, that these differences could just as easily reflect variations in patient **information** concerning cervical smears as variations in residence or proximity to medical care. (This is more likely true since the answers to another question in the Study showed that **distance** from the doctor had **no** effect on the time or frequency with which mothers visited their doctors for prenatal care.)

Table No. 4
Occupations of Patients' Husbands, and Cervical Smears
Have mothers had cervical smears within past year?
(Reported in %)

Husbands' Occupations	Yes	No	No answer
Doctor, dentist, engineer	65.66	32.82	1.52
Law, real estate, insurance, banking	54.70	44.44	0.86
Government service	54.36	41.09	4.55
Salesman, clerk, white collar, etc.	51.41	44.97	3.62
Small business, merchant, contractor	48.82	48.10	3.08
Ranching, accounting	43.92	51.38	4.70
Teacher	43.29	55.15	1.56
Laborer, carpenter, craftsman	39.91	54.06	6.03
Farming	35.21	59.87	4.92
Other	41.29	50.98	7.73

A glance at Table No. 4 shows a significant statistical relationship between the husband's occupation and the acquisition of a recent cervical smear by the mother. Upon reflection, however, one must suspect that this table probably reflects differing degrees of knowledge of respective mothers concerning the importance of cervical smears and prenatal care.

In Table No. 5, whereas two-thirds of mothers with graduate educations had had cervical smears, only about one-fourth of mothers with one to four years of elementary education had had this screening test performed on them. Percentages between are like the rungs of a step ladder.

Table No. 5
Educational Background of Mother, and Cervical Smears

Have mothers had cervical smears within the past year? (Reported in %)				Percent of "no" group who have **ever** had a cervical smear
	No answer	**Yes**	**No**	
No answer	48.59	20.00	31.42	4.28
No formal education	25.00	30.00	45.00	0.00
1-4 years	18.19	27.27	54.54	0.00
5-8 years	10.45	34.72	54.83	9.26
1-3 yrs. high school	7.61	37.47	54.92	7.85
Graduate, high school	3.98	42.04	53.98	11.00
1-3 years college	2.61	50.71	46.68	10.92
Graduate, college	1.54	55.35	43.11	13.77
Graduate school	0.00	62.35	37.65	14.11

Comment:

Education of the patients and, to some extent, education of the physicians is needed concerning the value and importance of cervical smear screening on a yearly basis. Where patients are knowledgeable, cervical smears are obtained more frequently (averaging somewhat less than 50%, in this study.)

Surprisingly, among racial groups, the American Indian had the highest percent of screening smears. Since most of these were taken by U. S. Public Health Service doctors in the Indian Hospitals (and the patients recognized that they had been taken and for what reason), it is apparent that doctors could educate most South Dakota women concerning cervical smear screening, within a year or two, simply by offering this service to all women (including prenatal patients). If the doctor simply takes a periodic cervical smear from each woman patient, and subsequently sends her a simplified report of the result, she will learn that it should be done, and will generally appreciate the advantages of this important, but relatively simple, aspect of preventive gynecologic medicine.

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SOUTH DAKOTA PRENATAL CARE STUDY
III. BABIES: GENERAL STATISTICS

Brooks Ranney, M.D.*

Introduction:

The prior, downward trend of perinatal (fetal and neonatal) mortality has **not** continued during the past decade. In fact, nationally there has been a slight increase in perinatal mortality (and, probably, morbidity). Students of perinatal statistics blame incomplete prenatal and obstetric care (or none at all), in some regions, as the major cause for unimproved or worsening trends, because increasing perinatal mortality is most notable in large metropolitan centers where many indigent patients in the transient, exploding populations do not seek prenatal care. Likewise, certain indigent rural populations who rarely seek prenatal care contribute more than their proportionate share to perinatal mortality.

The South Dakota Prenatal Care Study contained several questions which were designed to elicit responses concerning the newborn babies (their deliveries, and their progress during the first few hospital days.) Cross-tabulation of these answers with those concerning the mothers' prenatal care might show significant relationships.

*Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine; The Yankton Clinic, Yankton, South Dakota. (Note: This is part of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetrics Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic; and which benefited from the invaluable assistance of Dr. Neil Palmer, from the Department of Sociology and the Computer Center at the University of South Dakota.)

General Statistics:

The following statistics concern 10,606 births to mothers in South Dakota hospitals during a 12-month interval, starting July 1, 1965. These constitute about 85% of all hospital deliveries in South Dakota during this time.

1. **Type of Delivery**

The mothers were asked, "What kind of delivery did you have?" Their answers are tabulated in Table No. 1. It was reported that 0.9% had twins, and the type of delivery utilized for the second twin is also shown in Table No. 1.

Table No. 1
Type of Delivery

Single Birth and/or First Twin			Second Twin	
	Number	Percent	Number	Percent
"Normal" "Spontaneous"	6655	71.54	35	41.66
Forceps	1745	18.75	16	19.05
Breech	227	2.44	28	33.33
Section	287	3.08	5	5.96
No Answer	388	4.19		

The mothers were assisted in recording accurate answers by respective obstetric supervisors or nurses. It is apparent (Table No. 1) that almost three-fourths of South Dakota babies, during the year of record, were delivered "spontaneously." The remaining one-fourth had "operative" deliveries, as recorded.

2. **Birth Weight**

The question, "What was your baby's birth weight?", was answered by all but 1.59% of South Dakota mothers (Table No. 2).

Table No. 2
Birth Weights
(Recorded in Percent)

Pounds	Percent	Pounds	Percent	Pounds	Percent
0-1	0.08	5-6	6.49	10-11	1.63
1-2	0.22	6-7	22.44	11-12	0.23
2-3	0.33	7-8	33.98	12-13	0.04
3-4	0.72	8-9	23.00	13-14	0.01
4-5	1.73	9-10	7.51	No answer	1.59

According to birth weights about 9½% of the babies might be termed "small." However, only 1/30th of the total would be considered seriously previable or premature.

About 87% of the babies were of normal size at birth. The **average birth weight in South Dakota is almost exactly seven and one-half pounds.**

About 2% of the babies weighed between 10 and 14 pounds at birth, and must be classed as "large" babies.

3. **Gestational Age:**

Mothers were asked, "Did your baby come on time, early, or late?" It was specified in the question that any delivery within two weeks before or after the expected term date should be considered to be "on time."

Table No. 3
Gestational Age
(Recorded in Percent)

Babies were delivered more than 2 weeks "early"	8.35
Babies were delivered within 2 weeks of expected term date ("on time")	57.05
Babies were delivered more than 2 weeks "late"	5.23
No answer	29.37

Recording accuracy of answers concerning the gestational age of babies (Table No. 3) was marred by the fact that almost 30% of mothers did not answer this question. One may infer that this third of the mothers had no clear idea when their babies were supposed to arrive. If, during the first prenatal visit, the obstetrician asks a mother to **write down** the date when she **first** feels **fetal movement** and report it to him at a subsequent prenatal visit, calculations from this date will often clarify ambiguities deriving from variations and idiosyncracies of the last menstrual bleeding. The mother can then be given a **composite, estimated term date** (based on calculations (1) from the last menstrual period and (2) from the first day of "quickening"), with the admonition that the baby may arrive normally anytime **within two weeks before or after** this date.

However, if the mother does not come for her **first prenatal visit before** the **middle trimester** of her pregnancy, she cannot be warned to look for and record first fetal movement. Her memory of last menstrual bleeding (and its variations) is often vague. Then, all **accuracy** in estimating the term date is **lost.** This can have real significance when estimating time of delivery for toxic mothers, erythroblastotic babies, elective sections, etc.

It is interesting (despite the above ambiguities) that about 9½% of babies were considered small (Table No. 2), and about 8½% of babies were considered to arrive more than two weeks early (Table No. 3).

Also of some interest is the fact (recorded elsewhere in these studies) that the variations in distance that respective mothers must travel to see their doctors has **no** significant **effect** on prematurity or postmaturity of the babies.

4. **Condition of Baby**

Mothers were asked to answer the question, "What is the condition of your baby?" They were given a choice of five categories to check while answering this question.

About two-thirds of the mothers answered this question accurately. The remaining third of mothers either did not answer, or made obvious errors in answering, and were not recorded. One must assume that this latter third either (1) did not understand the question, (2) were uncertain concerning the condition of the baby at the time the questionnaire was completed, (3) or preferred to ignore the question. Nevertheless, the 6310 babies, concerning whom this question was accurately answered, represent a fair sampling of the deliveries in South Dakota during the 12 months of the Study. (Table No. 5)

Table No. 4
Condition of Baby
(Categories, and their Interpretation)

"Alive, healthy and growing"	Healthy	Healthy
"Alive, but not well"	Ill	Perinatal Morbidity
"Alive at birth, but died after delivery"	Neonatal death	Perinatal Mortality
"Died during labor and delivery"	Intranatal fetal death	Perinatal Mortality
"Died before labor started"	Antenatal fetal death	Perinatal Mortality

Table No. 5
Condition of Baby

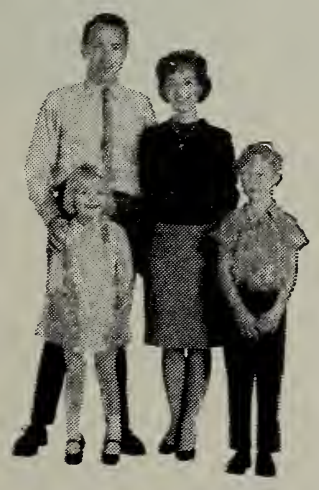
Single Baby and/or First Twin	Number	Percent	Second Twin Number	Second Twin Percent
Alive; healthy	6040	96.84	61	84.73
Alive; not well	62	0.99	1	1.39
Died after delivery	64	1.02	5	6.94
Died during labor	19	0.30	1	1.39
Died before labor	53	0.85	4	5.55
Recorded Perinatal Mortality		2.17%		13.88%
Recorded Perinatal Morbidity		0.99%		1.39%

The recorded 1.02% neonatal deaths and 1.15% combined fetal deaths add to a total 2.17% perinatal mortality rate, which is not high. To this one must add the 0.99% of babies who were not well, for a **total 3.16% perinatal mortality and morbidity** recorded among the single births and first twins.

However, when one notes the six second twins who died during labor or after delivery, and when one adds the 15.27% of perinatal mortality and morbidity which accrued to second twins, this disproportionately high figure makes one doubt whether the differences can be blamed entirely upon the prematurity which sometimes is associated with twin labors and deliveries. Some of the danger accruing to the second twin must result from (1) remaining for a time in a partially contracted uterus with associated hypoxia, (2) placental accidents during that interval, (3) diagonal or transverse presentation, (4) forceful intrauterine manipulations, or (5) cumulative pharmacologic effects of maternal anesthesia on the second twin. Management during labor and delivery of twin pregnancies should take at least these basic factors into relative consideration.

Note:

It is planned to consider **birth weights, gestational age,** and **condition** of the babies, in their respective relationships to other answers in the South Dakota Prenatal Care Study, in three succeeding reports in this Journal.



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1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
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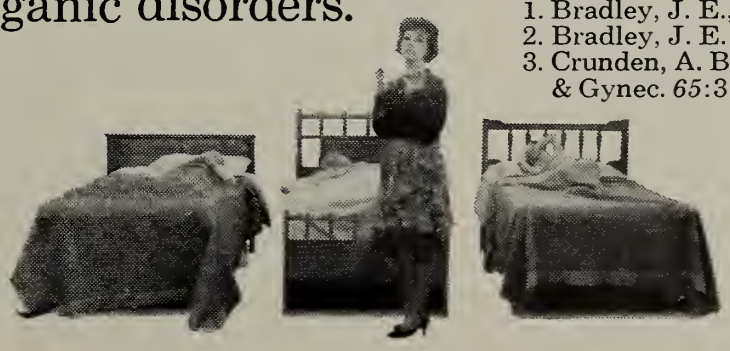

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Scientific PAPER

CRYSTALLINE STRUCTURE IN JUXTAGLOMERULAR GRANULES OF THE RAT

Tetsuo Shimamura, M.D., and Edwin H. Shaw, Jr., Ph.D.,
Departments of Pathology and Biochemistry
University of South Dakota School of Medicine
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INTRODUCTION

An electron microscopic study of rat kidney in experimentally induced lathyrism[1] revealed a crystalline structure in the juxtaglomerular granules. This prompted the authors to investigate whether or not a similar crystalline structure is also present in juxtaglomerular granules of normal rats.

METHOD

Three normal albino male rats, 7 weeks old, were killed by decapitation and part of their kidneys was embedded in a half and half mixture of Epon and Araldite. The remaining kidney tissue was fixed in 10% neutral formalin and embedded in paraffin. For light microscopy, sections were cut from the paraffin blocks, and were stained with hematoxylin and eosin and periodic acid Schiff's reagent. Phase and ultrathin sections were cut from the Epon-Araldite blocks by the Porter-Blum microtome. The latter sections were double stained with uranyl acetate and lead citrate[2] for examination under the RCA-3G electron microscope.

RESULT

The light microscopic examination showed a usual histologic appearance of normal rat kidney and no detectable abnormality was present. The phase sections revealed osmiophilic homogeneous appearing juxtaglomerular granules.

The ultrastructure of juxtaglomerular granules were granular or fibrillar mixed with electron-lucent areas and markedly electron-dense areas. (Figs. 1, 2). The proportion of these different ultrastructural areas varied from one granule to another. Most of these granules were surrounded, completely or partially, by a distinct limiting membrane (Fig. 1). In addition to these ultrastructures of the granules, there was a crystalline structure in some of the juxtaglomerular granules. The structure showed alternating electron-dense and electron-lucent membranous structures each measuring approximately 70 and 70 A in thickness respectively. (Fig. 3). This crystalline structure showed no morphologic difference from those observed in the juxtaglomerular granules of experimentally induced lathyristic rats. (Figs. 4, 5, 6).

DISCUSSION

Ultrastructure of juxtaglomerular granules is essentially similar to previous reports,[3, 4, 5] but the crystalline structure was not described in these previous reports. The crystalline structures observed in normal and in lathyristic rats were morphologically identical. The authors are not sure whether or not there is any quantitative difference in the crystalline structure between the normal and the lathyristic rats. It appears that the crystalline structures, in juxtaglomerular granules, are more numerous in the lathyristic rats, although the quantitative evaluation of the structures by election microscopy is extremely difficult and is subject to inaccuracies.

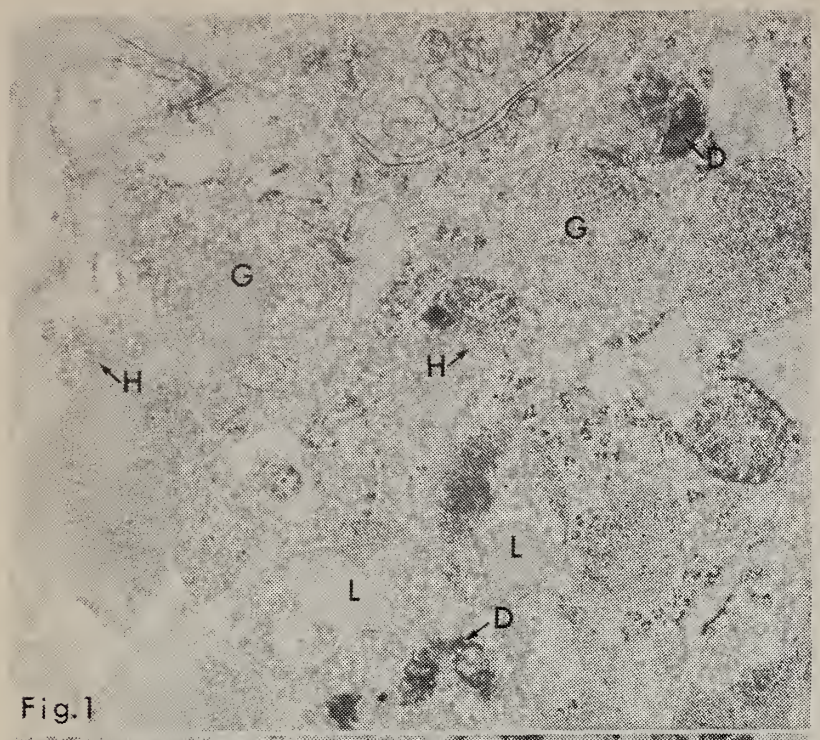

Fig. 1

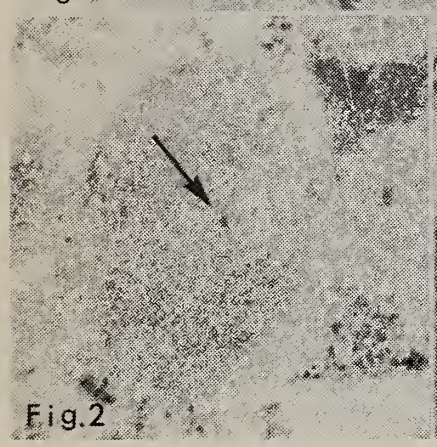

Fig. 2

Fig. 3

Fig. 1: Normal juxtaglomerular granules (G), of varying ultrastructural appearance, are illustrated. Notice the granular structures that are mixed with electron-lucent (L) and electron-dense (D) areas. Parts of some granules are homogeneous (H). X 29,500

Fig. 2: Higher magnification of the normal juxtaglomerular granules reveals a fibrillar structure within the granules. X 46,000

Fig. 3: Crystalline structure in one of the normal juxtaglomerular granules, showing alternating electron-lucent and electron-dense membranous structures. X 46,000

The variation in ultrastructure of the juxtaglomerular granules may well represent stages of formation or maturation of the granules.

The crystalline structure observed in our present study has morphological similarity to the crystalloid of Reinke[6] and some of the crystals observed in alveolar soft part sarcoma.[7] In both these reports, it was suggested that these crystalline structures were a secretory product. These crystalline structures probably consist chiefly of glycoprotein and are probably also related or similar to the lamellar material observed in mast cell granules[8, 9] or to lipofuscin-like granules.[10, 11, 12]

SUMMARY

A crystalline structure, observed in juxtaglomerular granules of normal rats, is briefly reported.

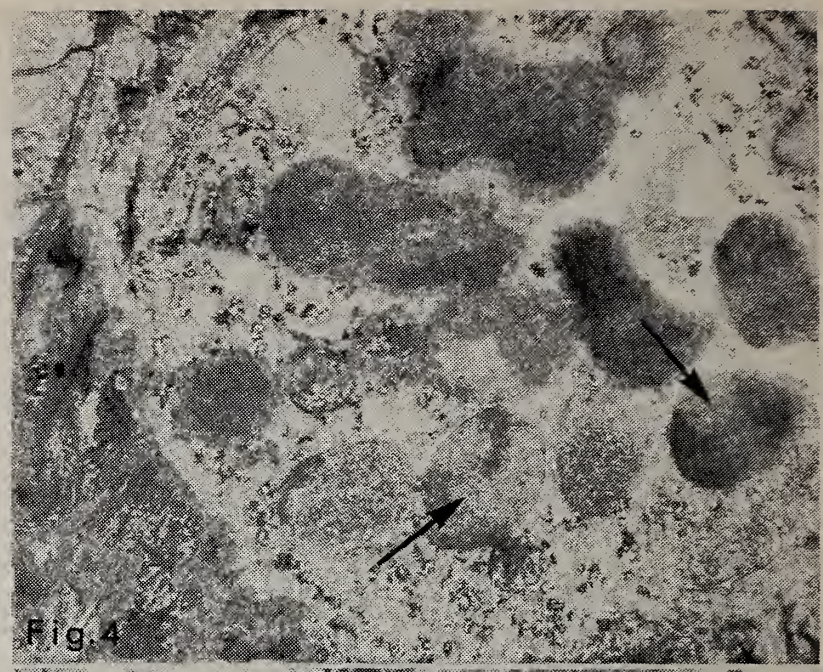

Fig. 4

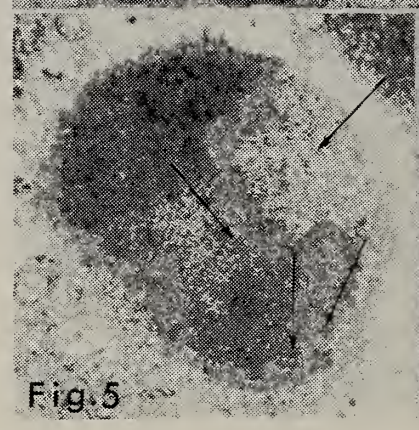

Fig. 5

Fig. 6

Fig. 4: Juxtaglomerular granules of lathyristic rat. Notice the similarity in the ultrastructure of these granules to normal rats. Higher magnification of the granules, indicated by the arrow, is shown in Figs. 5, 6. X 22,000

Fig. 5: Abortive crystalline structure showing fibrillar or membranous structure (arrow) in the juxtaglomerular granules of the lathyristic rat. X 57,000

Fig. 6: Crystalline structure of juxtaglomerular granules in lathyristic rat, showing regularly spaced alternating electron-lucent and electron-dense membranous structure (arrow), is illustrated. X 57,000

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LUPUS ERYTHEMATOSUS AND THE L. E. CELL

Lupus Erythematosus is a collagen disease with protean clinical manifestations. The basic anatomical lesion is fibrinoid degeneration which usually affects the connective tissue of the serous and synovial membranes, vascular system and skin. Characteristic lesions may occur in the heart and kidneys. There is evidence that the pathologic changes are due to an autoimmune phenomenon since abnormal proteins have been discovered in the gamma globulin fraction of the blood and also in the connective tissue lesions. Fibrinoid is a substance that resembles fibrin microscopically and also contains gamma globulin. Besides containing fibrinoid, the lesions may be necrotic and show acute and chronic inflammatory changes as well as granulomatous reactions. Hematoxylin bodies, which appear as small purplish globules in stained preparations, are sometimes present. They presumably represent nuclear material that has been altered by some substance in the gamma globulin fraction of the plasma.

Chronic discoid **lupus erythematosus** is a cutaneous disorder which usually affects the face, scalp and chest. Isolated patches may appear in other areas. If the cutaneous involvement is widespread the term, chronic disseminated discoid lupus, is sometimes used. Except for the cutaneous lesions, these forms of lupus are usually asymptomatic. Exacerbations and extensions of the lesions may occur, especially in the spring and summer. Dissemination may occur spontaneously or following undue exposure to sunlight, cold, infection and certain drugs.

On the other hand, systemic **lupus erythematosus** involvement is more widespread.. The clinical pattern is usually quite variable since one organ may be involved at a time, or different organs involved at different times. Fever, weight loss, arthritis and arthralgias, mucocutaneous lesions, photosensitivity, generalized lymphadenopathy, pleurisy, cardiac and renal involvement, anemia and leukopenias are all seen at various times, and in various combinations in this form of the disease. Systemic **lupus erythematosus** may be a fulminating disease with death occurring within a few weeks. Patients with less acute and subacute forms may live a few years, and those with mild or chronic systemic lupus may live 10 years or longer.

The finding of **lupus erythematosus** (L. E.) cells in a patient suspected of having systemic lupus is strong supportive evidence for such a diagnosis. The **lupus erythematosus** cells were first described by Hargraves in 1948. They were initially described in the bone marrow; however, as techniques improved, the peripheral blood was also found suitable for such testing. The L. E. cell is usually a polymorphonuclear leukocyte whose cytoplasm is distended by ingested altered nuclear material. Its formation in patients with systemic lupus is dependent upon the presence of the L. E. plasma factor. The gamma globulin fraction of the plasma contains the L. E. factor; however, little is known of its origin or its role in the pathogenesis of lupus. It has the ability to depolymerize and thereby alter the staining ability of nucleoprotein. The nuclear material in an L. E. cell is perfectly smooth and homogeneous. It is violet in color when treated with one of the Romanowsky stains. Usually it distends the cytoplasm of the polymorphonuclear cell that has ingested it and compresses the nucleus to one margin. The ingested globular mass of nuclear material must be smooth and homogeneous if the cell is to qualify as an L. E. cell. One may find the globular mass extracellularly or surrounded by several polymorphonuclear leukocytes to form a rosette-like configuration. Athough these structures do not have the same diagnostic significance as typical L. E. cells, they are often associated with them and are indications for a diligent search for typical L. E. cells. In some instances the ingested material will be clumped within polymorphonuclear cells and unevenly stained and nucleoli may still be recognizable. These changes do not support the diagnosis of lupus and indicate the absence of the depolymerization action of the L. E. plasma factor. Polymorphonuclear leukocytes or monocytes containing this type of material are termed Tart cells because they were first described in a patient with this name.

There are several procedures by which L. E. cells may be produced. They all require the

(Continued on Page 45)

(Continued from Page 36)

presence of the L. E. plasma factor, a source of nucleoprotein and viable polymorphonuclear leukocytes. Although false positive reactions have been described, the presence of an L. E. cell is almost pathognomonic of systemic **lupus erythematosus.** L. E. cells have been reported in cases of rheumatoid arthritis, hemolytic anemia, glomerulonephritis, drug reactions, serum sickness and following prolonged administration of hydralazine. The number of false positive reactions are minimized by adhering rigidly to the aforementioned criteria. The L. E. plasma factor may be preserved by refrigeration or freezing. It is destroyed by heating to temperatures of 65° C or above. The L. E. phenomenon cannot usually be manifested in patients receiving ACTH. It may sometimes be difficult to detect in patients with true **lupus erythematosus** and repeated examinations should be performed if the disease is strongly suspected clinically. Repeated L. E. tests are positive in approximately 75 to 80 percent of patients who have clinically typical cases. A single random test will only be positive about 25 to 40 percent of the time. Material needed for the test: 5 ml. clotted blood.

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WHERE GO WE?

F. J. L. Blasingame, M.D.
Executive Vice President,
American Medical Association
at the
AMPAC National Workshop
Sheraton-Park Hotel
Washington, D. C.
June 3, 1967

Doctor Henningsgaard, ladies, and gentlemen, I am indeed honored and pleased to be here today and to bring you greetings from the American Medical Association. It is heartening to see such a large attendance. It is testimony of your concern and your interest in the work of AMPAC.

My presence here is in the same vein. I am concerned and interested and contribute to AMPAC with money and time. It is indeed, then, appropriate that in this off-election year, there is no let-down, and that you are here in such numbers to learn more about this important activity.

Now, to my subject.

Faith leads to the conclusion that an upsurge of expectations is abroad among mankind. The Industrial Revolution in Europe, the American Revolution, and other significant happenings produced many by-products that have had profound effect upon this world. Modern transportation, mass communication, the harnessing of energy, and other factors have brought profound and rapid changes, most of which are laudable and highly significant. The values which men pursue have been enhanced, and more of a better life is desired — including more and better health.

These alterations and appetites should make us rejoice and give thanks. In many instances, however, these desires and aspirations are ahead of the matrix, or the basic organization, in respective national societies so that they are having difficulty in trying to satisfy this upsurge in wishes.

Hence, a dangerous period is with us, a season when the wishes of the past appear not to be enough; when the present is turbulent; and when the future may not be adequately satisfied. The veneer of civilization, then, is always subject to rupture, particularly in these trying times.

At this moment, our nation is at war, deeply involved. Likewise, major tensions exist in many other areas of the world. Blessed as our country is, it has appeared at times to some to be clumsy in adjusting to the profound changes within.

And to those in the remainder of the world, the leadership that has been thrust upon us as a people has not been easily assumed. Responsibility has weighed heavily upon our statesmen and our citizens, philosophically and economically.

But the freedom we enjoy has brought rich rewards to us as a people — rewards many of which we have readily shared with the remainder of the world.

You are a unique group, meeting under these circumstances, in this day of our country, in this day of the world. You are unique, knowledgeable, possessed of the motivation and insight that are sorely needed. Upon you rests a special responsibility to work in political action,

to the end that public opinion is molded, and candidates selected and elected who are dedicated to a limited, sound government. It is heartening, too, that you work not alone, but with many other non-medical groups of concerned citizens in addition to working with the American Medical Association.

Now, all of us know that we must maintain a degree of separateness between AMPAC and the American Medical Association, and between state PACs and the state medical societies.

But our separateness apart, most of us share the same goals. We are living at a time when scientific knowledge is exploding as brilliantly as a pyrotechnical display. Today's miracles become routine therapy tomorrow.

As physicians, we are fascinated and awed. And as we take up the tools of the new techniques and drugs that are being developed, we recognize the expanding dimensions of our potential for healing.

Having already provided the nation with the world's finest system of health care, we can only guess the extent to which we can improve it further.

But while we are participating in this revolution as professionals, intimately involved, others are looking on.

There is the audience of our potential patients, some 200 million strong, eager and anxious to take advantage of every scientific breakthrough.

As you know, physicians see approximately 2,250,000 individual patients each day. And physicians, and those working with them, contact daily approximately eight and a half million individual patients. So we have quite an audience.

Over their shoulders, the political audience is watching, alert to the problems that inevitably accompany progress, ever prone to seek solutions, in this as in everything, through legislation.

Thus, we are increasingly challenged to find viable solutions to health problems before the government steps in and tries to find them for us.

Never in our history have we had a shorter period of grace between the problem recognized and the problem solved.

Nor have our problems ever loomed so large and numerous.

Will government stay out of the areas in which it does not belong? Will legislators stick only to those phases of health care that are properly their concern?

We should know better than to think so.

The passage of medicare has not diminished the ardor to legislate by one iota. There were, in fact, more than 1,600 bills of interest to medicine introduced in the 89th Congress.

Many of them are back again this year — and will be back the next year, and the year after that. Furthermore, new proposals are being thrown into the hopper each week.

As of this very moment, Congress is considering measures involving direct payment under Title 19; requiring the generic prescription of drugs; and barring the taxation of advertising revenues for non-profit associations.

These — and other bills like them — are of vital concern to medicine.

How will they be acted on? Clearly enough, that will depend on the sort of men and women who constitute the Congress.

Once the Congress has convened, the problem of persuading it to act wisely on health matters is the responsibility of the AMA, which has had a record of interest and concern in legislation in the health field.

But the responsibility of electing a wise Congress rests largely on the shoulders of the PAC movement working with others.

I need not elaborate on the vast improvement you helped to bring about in the present Congress. Medicine's friends on both sides of the aisle are listening attentively when our spokesmen explain our legislative positions.

The PAC movement has, in effect, gained us precious time in which to prove that the competitive enterprise system can provide solutions superior to those based on government intrusion; all of which leads me to another question that could be posed appropriately:

During World War II, when civilian travel was being restricted, signs were posted in every airline, railroad, and bus terminal. "Is this trip necessary?" they asked.

In medicine's terms, was it necessary that we embark on the long, arduous trip of political action? Could we not have taken some other course requiring less time, effort, and money?

Unfortunately, no.

Let me assure you that this conclusion was reached only after long and hard deliberation. Political action is essential.

Without political action, medicine relied traditionally on two basic techniques.

The first was lobbying.

I think it is fair to say that the AMA has always employed political professionals in the

very best sense of the word. Our lobbyists have been, and are, experienced and knowledgeable men who have advanced our arguments with skill, logic, and force.

Our second technique has been legislative climate-building. Medicine has mounted a number of these campaigns of communications, some of which have been massive, and public relations efforts of wide variety in recent years. Designed to back up the efforts of our lobbyists, these climate-building programs have been well-coordinated, hard-hitting, and expert.

But by their very nature, they have been slow to take effect, and they have been expensive, and they have tended to produce only temporary solutions to problems that were bound to recur.

At their most effective — and they can be effective — climate-building programs work much like fire-fighting equipment.

But political action, on the other hand, might be compared to fire-**prevention** in its direction.

In any case, it gradually became apparent that lobbying and climate-building needed the added reinforcement of political action.

For the best of lobbyists are powerless to persuade if their arguments are falling on deaf ears. And no legislator is more hard of hearing than the man the opposition helped to elect.

In the continuing dialogue we must carry on with the leaders of both political parties, it has become abundantly clear that we must contribute more to the conversation than a series of legislative viewpoints.

For when we sit down to converse, we must be able to converse as peers in an atmosphere of mutual respect, with medicine's part of the dialogue stemming from a position of political strength.

The AMA's activities in this area of emphasis have been primarily, so far as climate-building is concerned, in the area of where the **lawmaker** is made — among the people back home. Due recognition and significant treatment, however, should be given to the other aspect — contacting the Congressmen and Senators personally where **laws** are made.

When physicians are known to have promoted the candidacies of some, and helped to frustrate the candidacies of others, we are in a position to request, if not require, a certain degree of attention — which I believe it is fair to say we are accomplishing.

At a recent moment in our history, the medical profession partially lost some 20 million or so people from the free sector of practice— through medicare.

But there are upwards of 180 million other Americans, the vast majority of whom are still receiving their health care through the private competitive enterprise and non-governmental mechanisms.

Medicine's overriding responsibility provides health care of the highest quality attainable. It can do so only if it is free to function without the constraints imposed by ill-considered government action.

Our primary goal is therefore to preserve this free, competitive atmosphere for these millions of our patients — and for the 250,000 or more physicians who serve them.

In the continuing struggle to preserve that freedom, the PAC movement has become a key instrument.

What does the future hold for medicine's political action forces?

Increasing strength and capability.

In my travels around the nation, I have sensed a discernible shift, in general, in the attitude of many medical leaders. Where once they sat back, they are now committing their means and themselves to the PAC movement.

This is good news, not only for AMPAC, but for the separate state PACs.

It means, among other things, that state legislative programs are now being coordinated with the PAC's support of state legislative candidates.

The result of this sort of happening cannot be anything but good in the long run. But patience is called for, as a move of this sort will not necessarily get results overnight.

Any way you slice it, the essential ingredient for PAC success, in my judgment, is medical leadership. Where the state leaders of medicine are **leading,** the state PACs are strong. Where medical leaders are not, the state PACs have been unable to approach their potential.

Now, just what have dedicated state medical leaders been doing to insure strong, vigorous PACs? I shall mention but a few things.

Individually, they have become AMPAC and state PAC members and contributed more than the amount needed to attain Active membership. Most have set an example to their colleagues by becoming Sustaining members.

They have seen to it that state society funds are made available to the PAC for such legally permissible uses as education and administration.

They have encouraged arrangements through which state society employees supplement PAC staffing.

They have seen to it that the activities of state medical society and state PAC are coordinated on a day-to-day basis.

Implicit in this is the necessity for the state society to provide leadership and assume responsibility for PAC success.

Medical leaders who are putting the PAC movement across in their various states are also, I might say, increasingly considering themselves PAC missionaries.

A word about membership. You will probably hear a good deal more about this subject later on during the Workshop.

But the ability of the PAC movement to raise dollars for candidate support depends, in good measure, on membership. So, too, does the ability to provide campaign workers for candidates.

And let me remind you that the PAC movement depends upon the collective efforts of all 50 states to recruit for their own state PAC and AMPAC.

To put it succinctly — what is needed? We need the involvement of more concerned, informed people, and money.

Now, part of the answer, from a practical standpoint, lies in joint billing. Where this is not now in effect, I suggest that you seriously consider this method, for this method, more than any other, produces members.

But on the other hand, we should not regard joint billing as a panacea. It produces few Sustaining members, for example. And it recruits few women. I urge you to augment joint billing with separate drives to enlist Sustaining members and physicians' wives.

Physicians work long and hard. But ours, by all reasonable yardsticks, is a prosperous profession. Far more PAC members should be Sustaining than presently are. They need to be sought and found and encouraged to become Sustaining members.

I believe that more AMA members are now involved in PAC activity than in any other single program in the AMA.

But membership is far lower than it must grow to be.

I realize that the present total represents a great deal of hard, continuous work by many people over the past six years.

But we need at least fifty per cent of the membership of the AMA in the PAC movement if it is to achieve its approximate potential.

And achieve it we must.

The stakes in medicine's success are staggeringly high.

Simply stated, they are the survival of an unrivaled system of health care painstakingly put together by our profession over the past century.

That system is first-rate — not perfect, but first-rate — because medicine has always been free to put quality before everything else.

The health care of our patients hinges upon our ability to remain free, to use our best professional judgment in their behalf.

We owe it to them and to our profession to safeguard our ability to heal in the ways we have found best.

Now, with the elections of 1968 just around the corner, it is time that we really shift gears and get going.

Where go we? I am convinced that we go forward to a better tomorrow for medicine and those it serves.

Thank you.

Entrapped by the rigidity of a puritan ethic, millions of Americans are unable to communicate about matters concerning human sexuality. Semantics and Sexuality, a three-day forum and workshop presented by San Francisco State College's Faculty Program Center and the Pacific Medical Center will address itself to these problems of communication in our society.

Featuring Dr. Lester Kirkendall, Professor of Family Life at Oregon State University and S. I. Hayakawa, renowned semanticist, the program is scheduled for February 23-25 at San Francisco's Fairmont Hotel. Other speakers include Drs. Jerold Lowenstein and Albert Long, of the Pacific Medical Center; Anthropologists Daniel Crowley from the University of California at Davis, and Herbert Williams from San Francisco State College, Lester Kinsolving, Episcopal priest and religion correspondent to the San Francisco Chronicle and other specialists in the fields of medicine and the social sciences.

Further information may be obtained by writing to the Faculty Program Center, Department S, San Francisco State College, 1600 Holloway Avenue, San Francisco, California 94132.

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Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL PEN•VEE® K

(potassium phenoxymethyl penicillin) Wyeth®

MINUTES OF THE COUNCIL MEETING SOUTH DAKOTA STATE MEDICAL ASSOCIATION

December 9, 1967 — Sheraton Cataract Hotel
11:00 A.M. — Sioux Falls, South Dakota

The meeting was called to order by E. T. Lietzke, M.D., Chairman of the Council. Present for roll call were Drs. J. J. Stransky, John T. Elston, Robert H. Quinn, A. P. Reding, Robert Hayes, Preston Brogdon, G. Robert Bartron, J. A. Muggly, A. J. Tieszen, Paul Hohm, Clark Johnson, E. T. Lietzke, C. E. Tesar, and H. E. Lowe. Also present were George Knabe, M.D. and Commission Chairmen Drs. Bruce Lushbough and Robert Giebink.

Dr. Reding moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published in the SOUTH DAKOTA JOURNAL OF MEDICINE. The motion was seconded by Dr. Johnson and carried.

Dr. Reding moved that Dr. Paul Hohm be appointed Councilor Pro-Tem for the Fifth District Medical Society. The motion was seconded by Dr. Tesar and carried.

An explanation of the South Dakota Basic Science Law by John Zimmer, attorney for the Basic Science Board, was presented to the Council. Mr. Zimmer proposed that the following amendment to the Basic Science law be introduced to the South Dakota Legislature:

Shown as a new section to be added under 27.0406 on Basic Science reciprocity:

Add to (5) a section as follows:

(d) That irrespective of the provisions of paragraph (c) hereof, the Board may waive examination if the applicant has passed an examination in the Basic Sciences before a National Accreditation Board whose requirements at the time of such examination are not less than those required by this State.

After a lengthy discussion, Dr. Hohm moved that the Council of the State Medical Association instruct the executive secretary and staff to consider and analyze the possibilities of recognition of national boards examining in the basic sciences and the granting of reciprocity based thereon by the South Dakota Basic Science Board. The motion was seconded by Dr. Stransky and passed.

Dr. Bartron then addressed the Council concerning the Basic Science requirement in South Dakota. Dr. Hayes moved to reconsider the previous motion. The motion was seconded by Dr. Quinn and passed unanimously.

Dr. Hayes moved that in keeping with the rapid changes in medicine, the Council of the South Dakota State Medical Association hereby approve the amendment to the Basic Science law. The motion was seconded by Dr. Hohm and passed. The secretary noted two opposing votes.

Mr. Erickson gave a brief report on the South Dakota Health Research Institute. Following a discussion regarding the changes in the Bylaws of the Research Institute, Dr. Reding moved that the Council approve the proposed amendments for the South Dakota Health Research Institute. The motion was seconded by Dr. Johnson and carried.

A discussion was held on the appointment of seven directors for the South Dakota State Medical School Endowment Association. Dr. Tesar moved that the Council re-appoint Drs. F. R. Williams, T. J. Wrage, G. E. Tracy, Warren Jones, and T. H. Willcockson. The motion was seconded by Dr. Hohm and carried. Dr. Hohm moved that the Council appoint B. O. Lindbloom, M.D. and J. A. Muggly, M.D. to fill the remaining positions on the Board of Directors. The motion was seconded by Dr. Hayes and carried. These terms will begin at the annual meeting in May, 1968.

Mr. Erickson explained the full-pay contract which will be available to Blue Shield subscribers in January. Dr. Hohm moved that the executive office survey the members of the Association group to determine if they wish to have this coverage, and to notify the Council by mail if the results are overwhelmingly in favor of the change. The motion was seconded by Dr. Johnson and carried.

The Council considered a resolution passed by the Minnesota State Medical Association on the Long Bill. Dr. Reding moved that the Council adopt the resolution and instruct the executive office to inform our Congressional delegation of the action. The motion was seconded by Dr. Bartron and carried.

RESOLUTION FROM THE COUNCIL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
RE: S-2299

Whereas the White House directed study of drug costs currently being carried out by the Department of Health, Education and Welfare will not have assembled its factual data until its reporting date in June, 1968, and

Whereas drug prices are the only major component of the health care package showing steady decline in recent years, and

Whereas there are at least 24 different variables affecting the clinical effectiveness of any given drug prescribed, many having to do with the details of its formulation, making the concept of generic equivalence a myth, and

Whereas only the attending physician has an opportunity to continuously monitor the quality and effect of the drugs currently available as well as the individual response of each of his patients to these medications,

BE IT RESOLVED that S-2299, otherwise known as the Long Bill, should be actively opposed as a premature attempt to deal with an as yet undefined problem, as a tragic excursion into further bureaucratic regulation and supervision of indescribable complexity, as restrictive of both the rights of the prescribing physician and the patient he serves.

Dr. Reding reported on a resolution regarding physician use of home health services which was passed by the AMA.

Physician Utilization of Home Health Resources

WHEREAS, Organized medicine has long endorsed the concept of home health care* and current health needs require the most economical use of health manpower and facilities consistent with quality care; and

WHEREAS, State and local medical societies are properly concerned with the availability and adequacy of health care services which support the work of the physician; therefore be it

RESOLVED, That The South Dakota State Medical Association formulate and help to implement, through the county medical societies, a program to encourage physicians to utilize home health services as they deem advisable in their communities.

Activities in which medical societies can participate to help implement the resolution include:

1) assist physicians in becoming aware of the home health services available in their communities, and the various methods by which their patients can pay for, or be assisted in paying for, such services;

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* In December, 1960, the AMA House of Delegates recommended that "physicians be urged to participate in organized home care programs for any patient who can benefit from the program and to promote such programs in their communities."

2) stimulate physician interest and acceptance of quality home care; and

3) provide assistance in community leadership — both in improving the coordination of existing home health services and in stimulating the development of new services where they are needed.

Dr. Hohm moved that the South Dakota State Medical Association adopt the resolution as presented. The motion was seconded by Dr. Reding and carried.

Mr. Erickson reviewed the budget proposed for 1968-1969. Following a discussion, Dr. Bartron moved that the budget be approved as submitted, with the exceptions of the following: the donation to the benevolent fund be discontinued and the printing of the Auxiliary newsletter be transferred to the Journal fund. The motion was seconded by Dr. Tesar and carried.

Nominations for the Community Service Award were received. A recipient for this award was named and it will be announced at the annual meeting banquet. Inasmuch as there were no nominations for the Distinguished Service Award presented, this item of business will be added to the agenda for the spring Council meeting.

A brief discussion was held on the resolution from the Aberdeen District recommending that the annual meeting format include specialty group meetings and workshops as in past years. Dr. Stransky moved that the resolution be referred to the Commission on Scientific Medicine. The motion was seconded by Dr. Hohm and carried. Dr. Bartron moved that the registration fee for the annual meeting be increased to $15.00 per member physician. The motion was seconded by Dr. Johnson and carried.

Dr. Stransky gave the report of the Executive Committee concerning Mr. Erickson's salary. Dr. Stransky moved that Mr. Erickson's salary be increased $2,000 per year, effective January 1, 1968, to be paid from the Journal and Board of Medical Examiners; and that increases in the same amount be made in 1969 and 1970, for a total increase of $5,000. The motion was seconded by Dr. Elston and carried.

Mr. Erickson discussed loss-of-time coverage for Mrs. Butler. Dr. Brogdon moved that the Council approve the insurance for Mrs. Butler. The motion was seconded by Dr. Hohm and carried.

A discussion was held on the matter of county physicians. Dr. Hohm moved that the secretaries of the District Medical Societies should be informed that if there is a problem in their area, it should be handled at the local level. The motion was seconded by Dr. Reding and carried.

Dr. Knabe informed the Council of a presentation to be carried on the University's educational TV station concerning medical care. Dr. Bartron moved that a liaison committee between the educational TV station and the Medical Association be established to act in an advisory capacity on films concerning medicine. The motion was seconded by Dr. Tesar and carried. It was suggested that Dr. Knabe and Dr. Hayes act as this committee and that Dr. Moulton be advised of the Council's action.

The Council considered the report of the Commission on Medical Service.

COMMISSION ON MEDICAL SERVICE MEETING

SHERATON-CATARACT HOTEL

South Room

Sioux Falls, South Dakota

September 30, 1967, 1:30 P.M.

The meeting was called to order by Chairman Gerald E. Tracy, M.D. Those present in addition to Dr. Tracy were T. H. Willcockson, M.D.; L. H. Amundson, M.D.; Warren Jones, M.D.; W. B. Odland, M.D.; Bernard C. Gerber, M.D.; William R. Taylor, M.D.; and T. J. Wrage, Jr., M.D. A letter was read from R. C. Jahraus, M.D., requesting excuse from the meeting as he was unable to be in Sioux Falls at this date.

The agenda included the following items.

1. A recommendation that a member of this Commission be placed in charge of farm safety activities and rural health was discussed with the appointment then of Bernard C. Gerber, M.D., as chairman of farm safety with the recommendation that Dr. James Daggett of Lennox and a member of the Donahoe Clinic be contacted regarding serving in the capacity of Rural Health Chairman.

   There was some discussion regarding a method for reporting farm accidents. This is to fall in the category of Dr. Gerber, and he will have some further reports at the time of the next meeting.

2. Item #2 was a discussion on proposals of Department of Motor Vehicles concerning the prescription labeling. Dr. Curt Jahraus had written a letter to the Commission stating that at the present time this should be left to the discretion of the physician but that no specific ruling should be pressed or encouraged at this time. It was moved by Bill Taylor that this recommendation of Dr. Jahraus' be accepted. This was seconded, and motion carried.

   There was much discussion regarding the state form of certification for eye examination on driver's exams, particularly with emphasis on the eye examination part. Dr. Tesar, who is a member of the Traffic Safety Committee, is said to have been very interested in this phase. Dr. Bill Taylor has stated that he will contact him regarding: (1) We wish to get a recommendation from the Ophthalmology Society regarding their feelings in this matter which would then be forwarded to the Commission, and following the approval of the Commission, should then be forwarded to the Council for their consideration.

   It was felt that some reinvestigation of the physical form for the status of drivers on re-examination should be given consideration.

   It was also moved at this point that the chairman of this Commission be given authority to present any recommendations from the Ophthalmology Society to the Council for its action.

3. Item #3 was the Medical School Feasibility Study. It was decided by the Commission that the Commission as a whole should act as a Medical School Affairs Committee and that any specific area that might later need attention could then have some member appointed by the chairman of the Commission for specific activities.

   It was at this time that Dr. Bob Hayes gave a presentation and report on the Feasibility Study as far as it has gone thus far. He stated that at the present time he is ready to present his program to the American Association of Medical Colleges and to the American Medical Association and is developing a plan for a proposed curriculum to present to these two groups of people. He gave a most interesting discussion following which he asked only that at the present time this Commission offer its support to him but that no further action need be taken at the present time.

4. In regard to the revision of the immunization schedule, it was reported that the Pediatric Society is currently revising its schedule and that since there are rapidly changing feelings regarding tetanus immunization and smallpox immunization and numbers of oral polio necessary, this must wait until further word comes from the Pediatric Society.

It was also mentioned that in the recent bulletin of the American College of Surgeons there are some excellent recommendations regarding tetanus immunization. There are posters available to be placed in hospitals, and Dr. Gerber stated that he would forward one of these to the chairman.

The Commission also received a report on Philips Roxane measles vaccine, and the report from Dr. C. Kempey of the University of Colorado, who originally raised some objection, is that the intervening circumstances have proven that Philips Roxane measles vaccine is perfectly safe and should be recommended for use in this state.

5. Item #5 was a report by Dr. Warren Jones from the Medical School in which he stated:

   a) Dr. Knabe is the official Dean as of August 19, 1967; however, this does create a void in the Pathology Department and there has been no report of any replacement as yet.

   b) The experimental dog situation, because of the action of the Sioux Falls Humane Society, is again creating some problems. It was stated that the State Dog Pound Law, if this were put into active practice through the efforts of Attorney General Frank Farrar and this law were invoked, would eliminate the problem as far as Sioux Falls is concerned. Dr. Bill Taylor agreed to contact Frank Farrar as did Dick Erickson agree to contact the President of the Medical Association so that he might contact the Attorney General in an effort to invoke the State Dog Pound Law.

   c) The Medical School admissions for this year are 49. In four to five years they will be to 60. There are 42 sophomores this year.

   d) Transfers during this past year presented no problems, and all students at the University were transferred without marked difficulty.

   e) The new school addition plans are progressing well, and bids will probably be let in December.

6. Item #6 on the agenda was a letter from Dr. E. H. Heinrichs with a resolution regarding the Crippled Children's Clinic and one regarding mental health. These were both passed to be sent on to the Council with the recommendation that the Council take the recommended action with the addendum note that mental health not only in the form of diagnostic clinic for mental retardation but as a whole needs some thought in the state of South Dakota.

   The items of interest to be brought before the Council would be:

   a) The resolution regarding the Crippled Children's Clinic. This Commission recommends favorable action by the Council.

   b) The resolution on mental health. This Commission recommends favorable action.

   c) The Commission is hopeful to have a specific recommendation regarding eye re-examinations on driver's examinations prior to the time that the Council will meet. At such time as these are available they will be forwarded to the Council.

   d) This Commission recommends the wholehearted support of Dr. Robert Hayes in his report of feasibility of a four-year medical school training program in South Dakota.

   e) This Commission recommends wholehearted support and cooperation of the Medical Society with the Traffic Farm Safety Bureau.

Very sincerely,
Gerald E. Tracy, M.D.
Chairman, Commission on Medical Service

RESOLUTION OF THE SOUTH DAKOTA PEDIATRIC SOCIETY

WHEREAS: In the past the South Dakota Crippled Children's Program has fulfilled a need and

WHEREAS: Said program has served many South Dakota children since its inception but has undergone many changes since that time, and

WHEREAS: There is now a growing dissatisfaction of the pediatricians and other physicians in the State of South Dakota with the South Dakota Crippled Children's Program, and

WHEREAS: There are grave doubts in the effectiveness, economy, medical standards, medical ethics, and general judgement of said program, and

WHEREAS: Said program is administered by the State Health Officer in conjunction with the Public Health Advisory Committee consisting of a majority of lay people including even a chiropractor, but no advisory group of interested and experienced physicians is connected with the said program, and

WHEREAS: The policies of the said program are ill-defined, and

WHEREAS: Said program is based largely on mass screening clinics with self-referral, without proper medical authority, responsibility, and follow-up and treatment program.

BE IT RESOLVED That the South Dakota Pediatric Society ask the Council of the South Dakota State Medical Association to conduct an investigation and cooperative study of the South Dakota Crippled Children's Program in conjunction with the Commission on Medical Services, the South Dakota Orthopedic Society and other interested specialty societies, and

BE IT FURTHER RESOLVED That any recommendations from such cooperative study after approval by the majority of those organizations be forwarded to the State Health Officer and the Public Health Advisory Committee for incorporation into the Crippled Children's Program of the State of South Dakota.

June 5, 1967

RESOLUTION ON MENTAL RETARDATION

WHEREAS: The problems of mental retardation requiring extensive investigative multi-disciplinary analysis are becoming more frequent in modern day medical practice; and

WHEREAS: The patients or parents of patients are unable to obtain the extensive examinations in a single location with follow-up educational and training consultation without extensive time consumed on the part of the practicing physician; and

WHEREAS: It has proven impractical to refer persons outside the state for expensive laboratory testing which could better be performed closer to the patient and the physician; and

WHEREAS: The 1966 Legislative Research Council study did not have an opportunity to go far enough into the advantages to be obtained from establishing a mental retardation diagnostic service; therefore

BE IT RESOLVED that this organization go on record as favoring the establishment of a state supported diagnostic service to assist physicians, at their request, with problems of mental retardation, to be available as soon as possible within the State of South Dakota.

Dr. Hohm moved that Dr. Reding communicate with the Commission on Medical Service relative to the Council's recommendation on rural health activities. The motion was seconded by Dr. Johnson and carried.

Dr. Hayes discussed the specific feasibility study he is proposing concerning the medical school. Dr. Stransky moved that Dr. Hayes' request to use the South Dakota State Medical Association as the sponsoring agent for the feasibility study for a four year medical school be referred to the Commission on Medical Service for study and recommendation inasmuch as the information was not available to the Commission at their last meeting. The motion was seconded by Dr. Reding and carried.

Dr. Hohm moved that recommendation (a) be referred back to the Commission for a more complete report and that (b) (c) (d) and (e) be accepted by the Council. The motion was seconded by Dr. Elston and carried.

Dr. Lushbough commented on the report of the Commission on Scientific Medicine.

MINUTES OF THE COMMISSION ON SCIENTIFIC MEDICINE

Mural Room
1:30 P.M. Sheraton-Cataract Hotel
September 30, 1967 Sioux Falls, South Dakota

The following members were present for roll call: Drs. Bruce Lushbough, Alvin C. Vogele, Richard B. Leander, E. H. Heinrichs, Clark Johnson, Noel deDianous, Judson Mabee, H. Streeter Shining, James C. Larson, and H. Phil Gross. Also attending was Mrs. Patty Butler, Administrative Assistant.

1. Scientific presentations at the annual meeting. The scientific schedule was presented by Richard C. Erickson, Executive Secretary, and was accepted. The proposed format of speakers should be confirmed within the next month by the various members of the commission so delegated.

Monday, May 20, 1968, 9:30 a.m. — Antibiotic Therapy — Gordon Mikkeljohn. Jim Larson, M.D. responsible for this program. Second choice — Dr. Harry Dowling.

Monday, May 20, 1968, 10:45 a.m. — Allergy Topic — Dr. Noel deDianous responsible for this program. First choice — George Logan, M.D., Rochester, Minnesota. Second choice — Dr. Leah — Minneapolis.

Monday, May 20, 1968, 11:30 a.m. — Anesthetic Emergencies. Dr. B. J. Begley will contact Dr. Bill Hamilton of Iowa. Second choice — two Sioux Falls anesthesiologists.

Monday, May 20, 1968, 1:30 p.m. — Surgery — Dr. Flatz — Dr. Phil Gross responsible for this program. Second choice — Dr. Paul Lipscomb.

Monday, May 20, 1968, 3:30 p.m. — Steroids in Skin Disease — Dr. Radcliff — Dr. Bruce Lushbough responsible for this program. Second choice — L. K. Cowan, M.D.

Monday, May 20, 1968, 3:45 p.m. — Drug Reactions — Repeat performance for Dr. Bill Hamilton of Iowa.

Tuesday, May 21, 1968, 9:30 a.m. — Genetic Counseling — Dr. Heinrichs responsible for this program. First choice — Dr. John Apatz. Second choice — Dr. David Smith. Both are from Madison, Wisconsin.

Tuesday, May 21, 1968, 10:45 a.m. — Neurology — Dr. A. C. Vogele responsible for this program. First choice — Dr. Stevens of Denver. Second choice — Dr. Jim Morianty from Minnesota. Third choice — Dr. Margales from Council Bluffs, Iowa.

Tuesday, May 21, 1968, 11:30 a.m. — Rheumatic Fever — Dr. H. S. Shining responsible for this program. First choice — Dr. Finesteen of Vermont. Second choice — Dr. Stollerman of Northwestern. This will also be subsidized by the South Dakota Internal Medicine Society and the South Dakota Heart Association.

It was decided that speakers should be contacted by November 1, 1967 and that these confirmations should be directed to the South Dakota State Medical Association office and they would follow up with further details from there. As far as compensation, it was decided that compensation would include travel and expenses for the speaker and his wife plus a $50.00 honorarium or travel and expenses for the speaker and $100.00 honorarium, should he choose not to bring his wife.

2. Diabetes Detection Drive. It was proposed by the American Diabetes Association. No further action was taken this year inasmuch as every district was notified one year ago of materials available from the American Diabetes Association and it was decided that from this point on it should be left up to the local district physicians whether it should be continued or not.

3. Mental Retardation Planning. Addendum #2 was read and no action was taken.

4. Measles Vaccine. The Philips Roxane vaccine has been proven to be free of any possibility of passing on a dog kidney virus leukemia, therefore the full approval of this vaccine was given by the commission. No further action was necessary inasmuch as the Commission on Medical Service is actually the commission responsible.

5. Tuberculosis Program. No report.

6. Heart, Cancer and Stroke Program. A brief report was given by Richard C. Erickson, Executive Secretary. It was felt that at this time no comments or recommendations were necessary.

The Commission made no recommendations which would require action at the next Council meeting.

Bruce C. Lushbough, Chairman
Commission on Scientific Medicine

Dr. Hayes moved that the report be accepted. The motion was seconded by Dr. Tieszen and carried.

Mr. Erickson commented on the report of the Commission on Internal Affairs.

MINUTES OF THE COMMISSION ON INTERNAL AFFAIRS

Oak Room #2
1:30 p.m. Sheraton-Cataract Hotel
September 30, 1967 Sioux Falls, South Dakota

The following members were present for roll call: Drs. B. J. Begley, Saul Friefeld, Rodney Stoltz and Edwin J. Moore.

The budget and audit were examined and found to be in order. A discussion was held regarding ways the budget might be pared, and it was decided that the only area of possible curtailment would be the expenditures of the annual meeting. Dr. Stoltz moved that the Commission suggest to the Council that annual meeting expenses be reduced by judicious use of speakers as to numbers and geographic location such as limiting speakers to those in surrounding states; also better cost control at the stag dinner with perhaps a specified number of "chits" available for each member for refreshments and also that consideration be given to reducing expenses for entertainment purposes. The motion was seconded by Dr. Friefeld and carried.

No report was presented regarding the Benevolent Fund. Dr. B. T. Lenz remains Chairman, Dr. Richard Hockett and Dr. George Angelos are the other revised members of this committee.

The Committee to Study the By-laws was revised. Dr. Begley appointed Dr. C. Rodney Stoltz as Chairman and Dr. W. O. Hanson, Dr. Edward Pasek, and Dr. C. L. Behrens as members. Dr. Begley and Dr. Friefeld were removed from the committee.

A discussion was held concerning the Association finances and the possible need for a dues increase. It was decided that no action be taken at the present time, but that the committee study this possibility further after the new budget is presented. Members of the committee to study the Association finances

are Dr. Saul Friefeld, Chairman, Dr. B. J. Begley, Dr. Richard Belatti and Dr. Edwin Moore.

The meeting was adjourned.

Respectfully submitted,
B. J. Begley, Chairman
Commission on Internal Affairs

Dr. Brogdon moved that the Council accept the report of the Commission on Internal Affairs. The motion was seconded by Dr. Reding and carried.

Dr. Giebink discussed the report of the Commission on Communications.

MINUTES OF THE COMMISSION ON COMMUNICATIONS

Room 208
1:30 p.m Sheraton-Cataract Hotel
September 30, 1967 Sioux Falls, South Dakota

The following members were present for roll call: Drs. Robert Giebink, John Hoskins, R. E. Van Demark, H. H. Theissen and Donald L. Scheller. Also present were Robert Johnson, Public and Professional Relations Director for the State Association, and Ray Miller, Field Representative for the American Medical Association.

The operation of the State Fair booth was discussed by Robert Johnson. The display was loaned by the AMA and was on "rural health." 25,000 people went through the Education Building and 1,500 picked up pamphlets. The total cost of the booth was $400.00. Volunteer members of the commission manned the booth with a representative from the state office. Thanks go to Drs. Hoskins, Van Demark, Scheller, King, Lardinois, Giebink and Lindbloom for their time and help. It was generally agreed that:

1. the booth was good public relations but needed improvement.
2. some type of "gimmick" was needed to draw attention such as ECG machine.
3. a special committee should be appointed well ahead of time to organize the booth.
4. an appealing subject such as "careers in medicine" be emphasized each year. The AMA has a catalogue on subject material and Bob Johnson and the chairman should get together and select possible subjects.
5. volunteer doctors and possibly medical students be hired to help man the booth.

Dr. Van Demark discussed the **South Dakota Journal of Medicine.** It was agreed that it would be good to number the pages consecutively through the entire year as is done in most Journals. The importance of editorials by members of the State Association and especially members of the Commission was emphasized. Contributions of interesting cases, papers, speeches, etc. by members of the Association are desirable, commendable and much desired by the editor. A biographical section was considered as a possibility with the district secretary delegated the responsibility of appointing a friend of a deceased member to write a biographical sketch to share with other members some of the highlights of the deceased member's life. Letters to the editor should be encouraged to make everyone feel he is a member of a close knit group and that the Journal belongs to everyone.

Sectional groups should be encouraged to publish their minutes or special papers or develop a column such as "Path Capsule" which has been extremely well received. The editor would be happy to hear any suggestions members of the Association might have.

Robert Johnson reported on Community Health Week (October 15-21). Packets were sent to each district outlining the three projects: health education on immunization, career opportunities in medicine and allied fields, and health education on venereal diseases. In the future it was thought members of the Commission should receive these packets well ahead of time and a more concentrated effort be made to promote Health Week. It would be better if the project were spread over a longer period of time instead of concentrating all this material in one week.

The teen age education program is being carried out by the Auxiliary therefore no action was taken.

Other possible subjects for promotion by the Commission were discussed. The benefits and location of poison centers are little known by the public. Fluoridation on a state wide level is a definite possibility. Bill board advertising, editorial letters, speeches, etc. could all be used to publicize selected subjects.

There is a definite need for providing the Commission or a Public Relations Committee with budgeted funds for carrying out a well coordinated program of promotion.

The promotion of "Future Doctors" clubs in high schools might be another subject which could be instigated by this Commission and be valuable in promoting medicine as a career.

It was felt there was a real need for an outline of the duties and function and scope of the Commission on Communications. Each member is asked to write the chairman if he has any thoughts or ideas which might be useful as the chairman has a subtle feeling of an inadequate grasp of the subject.

Respectfully submitted,
Robert R. Giebink, Chairman
Commission on Communications

Dr. Brogdon moved that the Council accept the report of the Commission on Communications and that all recommendations be implemented as soon as the budget will permit. The motion was seconded by Dr. Bartron and carried.

Mr. Erickson discussed the report of the Commission on Liaison with Allied Organizations.

MINUTES OF THE COMMISSION ON LIAISON WITH ALLIED ORGANIZATIONS

Lamp Room
1:30 p.m. Sheraton-Cataract Hotel
September 30, 1967 Sioux Falls, South Dakota

The following members were present for roll call: Drs. David J. Buchanan, A. J. Tieszen, Ted Hohm, D. L. Ensberg, Mary Sanders and Mel Marousek. Also present was Dr. Robert Hayes, Coordinator of the Nebraska-South Dakota Regional Medical Program.

The request from the State Osteopathic Association was referred from the Council for consideration and for recommendation to the House of Delegates for action. The request was discussed and it was determined that this would improve scientific knowledge and public relations with the osteopaths in the state. The changes in AMA policy and Department of Defense policies were an influence in the commission's decision. Dr. Hohm moved that the commission recommend to the House of Delegates that members of the South Dakota State Osteopathic Association be invited as guests to the scientific and academic portions of the state meetings. The motion was seconded by Dr. Tieszen and carried.

Dr. Hayes reviewed the Regional Medical Program and its relationship to the Comprehensive Health Planning Program for the state. Dr. Mary Sanders moved that the commission approve in principle section one: "Establish a Health Intelligence Facility," and section two: "Organize ten local regional committees of South Dakota (marked on map of South Dakota by Dr. Hayes) to serve as planning committees." The motion was seconded by Dr. Marousek and carried. Dr. Sanders moved that action be deferred in naming any group as the Health Intelligence Facility until after Dr. Steele's group holds its October meeting. Dr. Marousek seconded the motion and it was carried.

A discussion was held concerning medical-legal conferences. It was the opinion of the commission that these conferences be included in presently

scheduled meetings on the local and state level such as the talk presented by Dr. Johnson at the state meeting in Rapid City in 1967. The commission recommends that local districts invite local lawyers to help schedule local programs.

The commission discussed the AMA nursing proposal concerning three year diploma nursing schools. The commission recommended that on a state level personal contacts should be made, letters should be sent to three year diploma nursing schools and a statement should be presented personally by a doctor to the State Nurses' meeting encouraging the continuation of the present three year programs. The commission also recommended that doctors, individually, speak favorably to patients interested in nursing careers and to groups such as Future Nurses' Clubs, candy-stripers, etc. to encourage students to attend the three year schools.

A brief discussion was held concerning the AMA program brochure on Medicine and Religion. The commission recognized the need for local attention to this matter; however no action was taken.

Respectfully submitted,
David Buchanan, M.D., Chairman
Commission on Liaison With Allied Organizations

Dr. Hohm moved that the Council accept the report o fthe Commission on Liaison with Allied Organizations. The motion was seconded by Dr. Lowe and carried.

Dr. Bartron presented the report of the Commission on Legislation and Governmental Relations.

REPORT OF THE MEETING OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

Sioux Falls — September 30, 1967

The Commission on Legislation and Governmental Relations met in the Oak Room of the Sheraton-Cataract Hotel in Sioux Falls, at 1:30 P.M. on Saturday, September 30, 1967.

Members present were: Dr. G. Robert Bartron, Chairman; Doctors Charles E. Tesar, Richard W. Honke, Robert J. Foley, Clifford F. Binder, Bill Church, Thomas Bunker, Courtney Anderson. Also present was Richard C. Erickson, Executive Secretary and Warren May, legal counsel.

Items on the agenda were discussed as follows:

Suicide Law: Testimony was heard from Dr. Eberhard Heinrichs. Final recommendation was to have Mr. May revise the law to . . .

(1) Eliminate the felonious involvement of the physician in attendance.

(2) Change the stigma from a crime to an illness.

Inhalation Therapy: Testimony was also given by Dr. Eberhard Heinrichs. After testimony and discussion the subject was raised relative to the direct supervision by licensed physicians. This subject was raised by the Hospital Association and it was recommended that consultation relative to this proposed legislation would be obtained with the S. Dak. Hospital Association. It was also recommended that the area involving intubation, or those qualified to perform intubation, be eliminated and after these contentions arose it was resolved that the committee recommend that this revised proposal be submitted for legislative consideration.

Legalized Abortion: It is the position of the committee that no stand on this proposed legislation be taken with the exception that if it appeared that such a proposal would be submitted to the legislature the Association, through its lobbyists and influence, try to see that the stand recently established by the AMA be included in such law in committee hearings.

Hearing Aid Licensure Bill: It was the committee's recommendation that if legislation is proposed relative to hearing aids the association go on record as supporting the principle of protecting the public from unscrupulous sales of hearing aids.

Treatment Center for Disturbed Children: It was the committee's recommendation that the legislature support this legislation if it was submitted.

At this point a short recess was called at which time it was determined that the Boston Red Sox were killing the Twins and Doctor Tesar poured for the committee members.

Mr. Miller, District Representative of AMA, then addressed the committee and discussed Public Law 120-80 which is the compromise of the expanded Medicare proposal and he indicated to the committee that in the compromise form the inclusion of the disabled had been eliminated and this bill in its present compromise form could be acceptable to the medical profession but should further amendments be added to the bill it would again become unpalatable and amendments should be avoided.

Mr. Miller also discussed Public Law 89-749 which is the Comprehensive Health Plan legislation. Mr. Miller indicated that as of this time no definite guide lines or plan of operation had been established but that it would be watched carefully from the AMA level but when the plan is implemented from the state level it should also be scrutinized and above all the medical profession should be widely represented in the capacity of an Advisory Committee or membership thereon.

Mr. Miller also discussed the possibility of a better contact with our Congressional legislators on an individual, personal-letter basis rather than the stereotyped mass telegram or mailing system currently most widely used. Mr. Miller suggested that perhaps a limited number of physicians from each Congressional District be appointed or selected to maintain this personal contact with the U. S. Senators and Congressmen and that these individual physicians be selected on the basis of personal acquaintance with one or more of the Congressional delegates. Mr. Miller went on to explain that such an approach to the members of the Congressional delegation would add effectiveness to the Association's stand on any particular problem. It is understood that the mass media contacts should also be continued.

This committee recommended that in the First Congressional District, Doctors Thomas Bunker, Bill Church and John Stransky assume this position and in the Second Congressional District, Doctors Art Lampert, Chuck Tesar and LeRoy Askwig act as their counterpart.

(A copy of this discussion and suggested selection will be forwarded to these doctors for their information and compliance should they elect to function.)

Mr. Miller in his last item for discussion pointed out to the committee that an all-encompassing blueprint for welfare progress extending to the year 1975 and beyond was also a reality and if the context of this blueprint were put into effect voluntary private medicine would rapidly go out of existence and that the position of private medicine should be to continue to vigorously oppose this blueprint for welfare progress because of the obvious conclusions.

One last item was discussed and that was the inadequacies of the present coroners law and that attention should be given to revising this present statute to be more compatible with the coroners' position.

The meeting was then adjourned at 5:00 P.M.

Respectfully submitted,
G. Robert Bartron, M.D.
Chairman

Dr. Bartron moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Elston and carried.

The meeting adjourned on motion at 4:30 P.M.

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — Volume 1, No. 1 — January 1948

Doctors Urged to Participate

The publication of a State Medical Journal is an ambitious undertaking for a Medical Association with as small a membership as we have in South Dakota. However, the Council, after due consideration and encouragement from and approval of, most of the members of the component District Societies, decided to launch such a journal and here is the first issue.

Its success will depend upon many factors but one of the most important is the interest in this undertaking shown by the individual physicians of South Dakota. It can be of untold value to the medical profession by drawing the members closer together in trying to solve various medical and economical problems and by stimulating the writing of scientific articles by South Dakota physicians.

We hope every member of the South Dakota State Medical Association will help to assure the success of this publication by being free with comments and criticisms, sending in news items of interest and particularly interesting case reports and scientific articles.

Remember this is **your** Medical Journal!

R. G. Mayer, M.D.

Seventh District Auxiliary Meets at Stevens Home

The seventh district medical auxiliary held its annual holiday gathering at the home of Mrs. R. G. Stevens in Sioux Falls on December 16th. Forty members attended the supper and then spent the evening playing bridge. Winners at bridge were Mrs. Ed Rich, Mrs. Howard Shreves and Mrs. R. J. Weisler. Assisting hostesses were Mesdames T. J. Billion, Charles Ihle, Russell Greenfield and Ray Grove.

Black Hills Names B. S. Clark President

Election of officers was held at the regular meeting of the Black Hills District Medical Association in Deadwood, December 11, 1947. Dr. B. S. Clark, of Spearfish, was elected President for the year, 1948. Dr. H. E. Davidson was elected Vice President and Dr. Glen Heidepreim, Deadwood, was elected Secretary-Treasurer.

The District went on record as endorsing the action of the Council relative to the establishment of a state Medical Journal.

Mental Health Association Inspects Yankton Hospital

A committee of lay inspectors selected from the membership of the newly formed South Dakota Mental Health Association visited Yankton State Hospital last week to check on conditions which had been reported in the "Sioux Falls Forum."

The committee, appointed by Association President, A. G. Bauer of Big Stone City, included Bauer, Rev. E. C. Antrim of Pierre, J. C. Foster of Sioux Falls, George Phifer, Mitchell, and K. J. Campbell, Sioux Falls.

The "Forum" had carried numerous stories on unsatisfactory conditions at Yankton, the material collected from a patient, an employee, and a visit through the back door by the editor.

The patient, a chronic alcoholic was discharged from the hospital before the investigation but a member of the committee conducted an interview with her before she left for private life. The results of that interview are being incorporated in the committee's report which will be published in its entirety in a forthcoming Journal.

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Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.
Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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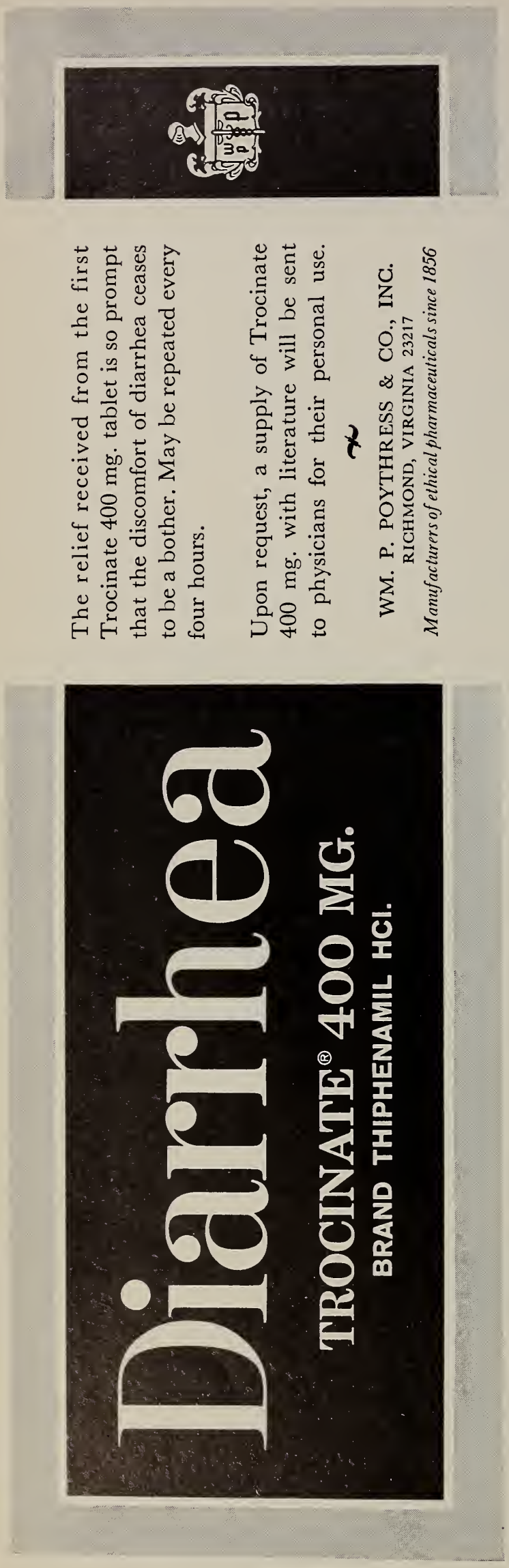

THE MONTH IN WASHINGTON

A group of advisors to the Public Health Service and an AMA official separately emphasized the seriousness of the health manpower problem.

The Allied Health Professions Education Subcommittee of the National Advisory Health Council said in a report to the PHS surgeon general, Dr. William H. Stewart, that health manpower is the critical factor in the provision of health services in this nation.

"With the rising capacity of medicine to provide a satisfying array of services, the lowering of financial barriers to service, and the growing acceptance of a public responsibility to assure that all people have adequate medical service, needs and demands for medical care continue to outstrip their availability," the report said.

"Many people are struggling with approaches to the measurement of health manpower shortages. But no one figure can express the total need. And even if it were possible to envision ideal health services staffing for a community, a state, or a nation, the continuing development of new knowledge and techniques, new patterns of service, and new methods of payment are constantly changing the needs, both for numbers and varieties of health workers."

Dr. Alvin J. Ingram of Memphis, Tenn., a member of the AMA Board of Trustees, told the AMA Conference on Aging and Long-term Care in Baltimore, Md., that there is an urgent need for all categories of health personnel.

"We have been challenged by government to revamp our system of health care, to make it available to every one and to do so more economically than at present," Dr. Ingram said. "To do this will require not only larger numbers of health personnel, but more coordinated and efficient use of all members of the health team.

"The basic purpose of all of medicine — research, education and practice — is the application of the art and science of the profession to the individual patient or to the community as a whole.

"Furthermore, we are constantly exposed to remarks about the brain drain, the siphoning of physicians trained in other countries and their acceptance here to fill our own voids, even at the expense of intensifying already desperate shortages in other nations.

"Yet we have our brain drain in this country — the consistent and progressive decrease in the ranks of practicing physicians as members of the profession turn from the primary respon-

sibility of patient care to research, teaching and administrative service. In the past 15 years, the number of physicians in full time private practice has decreased at the rate of almost one per cent a year, from 75 per cent in 1950 to 62 per cent in 1965."

Dr. Ingram decried the growing dependence of the nation's health care system on foreign physicians.

"This dilemma can hardly be exaggerated," Dr. Ingram said. "Not one foreign graduate meets our domestic requirements which include graduation from an approved medical school which has undergone regular, competent inspection."

* * * *

Dr. Ingram cited government figures showing that the percentage of foreign physicians in the United States had risen from 16 per cent in 1956 to 26 per cent in 1966 and that nearly half of them were from under-developed or developing countries that badly need their services at home.

* * * *

The House Committee on Government Operations has issued its third report charging costly and inefficient administration of research grant programs by the National Institutes of Health and other Public Health Service bureaus.

The Congressional watchdog panel said the PHS had made relatively little effort to improve its administration of grants since the committee's two previous reports in 1961 and 1962.

"Inadequate administrative performance is demonstrated, for example, by the inept handling of payments for the indirect research costs of grantees and the extremely poor administration of the General Research Support and Health Sciences Advancement Award programs," the recent report said.

"NIH and other PHS bureaus were found to have made excessive indirect cost payments to grantees." (About $500,000 in one case).

The American Medical Association supported legislation to continue federal aid for construction, training and research under the Health, Education and Welfare Department's retardation program, but opposes grants to help pay for initial staffing.

The AMA position was outlined by Dr. F. J. L. Blasingame, AMA executive vice president, in a letter to the House Public Health and Welfare Subcommittee. He said:

"The extent to which the problem of mental retardation can be ameliorated in future years depends largely upon continued research. Although some breakthroughs have been effected such as the prevention of some types of mental retardation as a result of our increased knowledge of body metabolism, there are still gaps in research, personnel and financing which must be overcome. While the ultimate answer to the problem of mental retardation is prevention, we recognize that in the meantime, mentally retarded individuals must be cared for and must be educated and trained to the limit of their capabilities.

"In this regard, the AMA supports efforts to provide higher standards of care for the institutionalized retarded, special educational programs, day care centers within the community, counseling services for the parents of retarded children, and efforts to create job opportunities for retarded adults. For these programs to be effective, the nation needs additional facilities and an increase in properly qualified personnel. We, therefore, are pleased to submit for the record our continued support of the expansion, extension and improvement of facilities and services through construction, training and research grants . . .

"The bill, however, also amends the present Act to authorize grants for meeting a portion of the cost of compensating professional and technical personnel during the initial operation of the facility. Although such federal financial assistance during the early years might enable a mental retardation facility to undertake a more comprehensive program than it might otherwise attempt, it can be demonstrated that once reliance is placed on a federal subsidy for staffing, the role of the federal government as a provider of operating funds will not easily be ended. Once a facility has been constructed, the community can and should assume the responsibility for its operation, including the costs of staffing."

* * * *

Pesticide residues in the nation's food supply have remained low for the third consecutive year, according to the Food and Drug Administration's third annual "total diet" study. In the survey, food samples were collected in 30 cities over an 11-month period ending last April. Samples were analyzed to identify and determine the level of pesticide residues. The FDA said residues remained well below acceptable daily intake levels established by the World Health Organization and the Food and Agricultural Organization of the United Nations.

* * * *

(Continued on Page 78)

WHAT DOES GALVANIC SKIN RESISTANCE DEMONSTRATE ABOUT THE EFFECT OF VALIUM (diazepam)?

Galvanic skin resistance...one measure of the Valium (diazepam) effect in reducing the somatic response to acute stress[1,2]

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This gives a graphic representation of changes which the body may undergo in reacting to stress. The application of modern statistical analysis to these graphs provides a yardstick by which the calming effect of Valium (diazepam) can be measured quantitatively.

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with a history of convulsive disorders, glaucoma or known hypersensitivity to drug.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage—*Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See *Precautions.*)

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References: 1. Selesnick, S. T., and Clemens, T. L.: From research film "Motion Picture Films in Psychosomatic Research," available from Roche Laboratories. 2. Clemens, T. L., and Selesnick, S. T.: *Dis. Nerv. System, 28*:98, 1967.

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PHYSICIANS AND POLITICS

Too often in the past, discussions in the Doctor's Dressing Room of the hospital or at medical meetings have relegated to the position of a "second rate physician" the man who is active in the policy making activities of medicine or seriously interested in conventional politics. Fortunately with the gradual enlightenment which has appeared on the medical scene, the stigma of political association, medical or otherwise, is fading and in its place there is beginning realization by the physicians that they too are members of society in general as well as of medical associations, and must contribute their efforts and money in order to advance their ideals. At the first national meeting on socio-economics of health care, held at Chicago in January 1967, some most pungent remarks relating to this matter were made by Wallace S. Sayre, Professor and Chairman, Department of Public Law and Government, Columbia University. A little deliberation regarding his thoughts might prove fruitful.

Doctor Sayre commented that knowingly or otherwise the medical profession has been involved in the American political arena for almost a hundred years but the physicians individually and collectively have been unhappy about acknowledging this fact. Now, like it or not, we have been thrust directly into it and will have to learn expeditiously the political facts of life. He compared the political system of this country to a non-zero-sum game, which in actuality is a situation in which at least in theory everyone can win at least a little. This is opposed to a zero-sum game in which the losses must equal the winnings so that someone loses. In our political system the mortality rate is low and the rules of survival can be learned.

The decision making system of this country through which such far reaching doctrines as Medicare have evolved and will be revised, is the product of a political process which may not be completely ideal. It is a mechanism which has been developed over a long period of time, and one which is not likely to be abandoned or modified drastically in the immediate future. No major policy area is exempt from it; when it comes to important public policy, politics is inescapable. Important issues can be moved only from one kind of politics to another, and that only within narrow limits. Each participant in this system wants to move the issue in question from whatever kind of politics he may be in at the present time to a kind of politics which is more favorable to him or that which he represents. Our political system is fundamentally pluralistic, implying that there is room for those whose philosophies differ; that there are many centers of power, competitive with each other.

Decisions in the pluralistic, many-centered power system are reached by bargaining among the competing centers of power. **Bargaining is a fundamental key to the system** and inability or indisposition to bargain means defeat. Because there are different resources available to the separate participants in the political arena, because their goals are not the same, and because they represent different ideologies, decisions reached ultimately usually involve **compromises among the initial preferences of the contestants.** There are almost no final settlements in the system.

In the national decision making system, and with modification at other levels of the political structure of this country, there are seven centers of power. They are: 1) The executive branch, 2) The legislative branch, 3) The courts, 4) The bureaus, 5) The political parties, 6) The interest groups, "pressure groups," or "civic groups," and 7) The communications media. Each of these influences and modifies the actions of the other powers.

There are no giants in our political system. Decisions cannot be made by an individual participant in the system, only by alliance building with other actors. Bargaining is the process through which coalitions are built, and it is also the process by which decisions are made between opposing coalitions.

The virtues of our political system are: 1) competitiveness, 2) openness, 3) moderation, 4) responsiveness, 5) decisions are under continuous scrutiny and revision. Some of the drawbacks of the system are the facts that it lacks speed, it is not characterized by high rationality, and it lacks certainty. This system does not produce clarity, (almost all decisions are ambiguous, promoting compromise), is not characterized by logical coherence in policy.

With these philosophies as a guide, it becomes apparent that if the goals toward which we as physicians aspire are to be reached, there will have to be considerable revision of our thinking. Recognition rather than castigation should be awarded to the physician who participates in medical or conventional politics. There must be more active and less passive physician participation in public office and aggressive interest by individual members of the medical profession in decisions affecting them and their affairs. It is only through the activity and guidance of intelligent, educated, thinking citizens of the community, of which the physicians are one group, that important decisions affecting the future of this country can be made. If we physicians shirk this responsibility individually and collectively, there is no one to blame but ourselves for the consequences which result from our apathy.

Signed: J. B. Gregg, M.D.

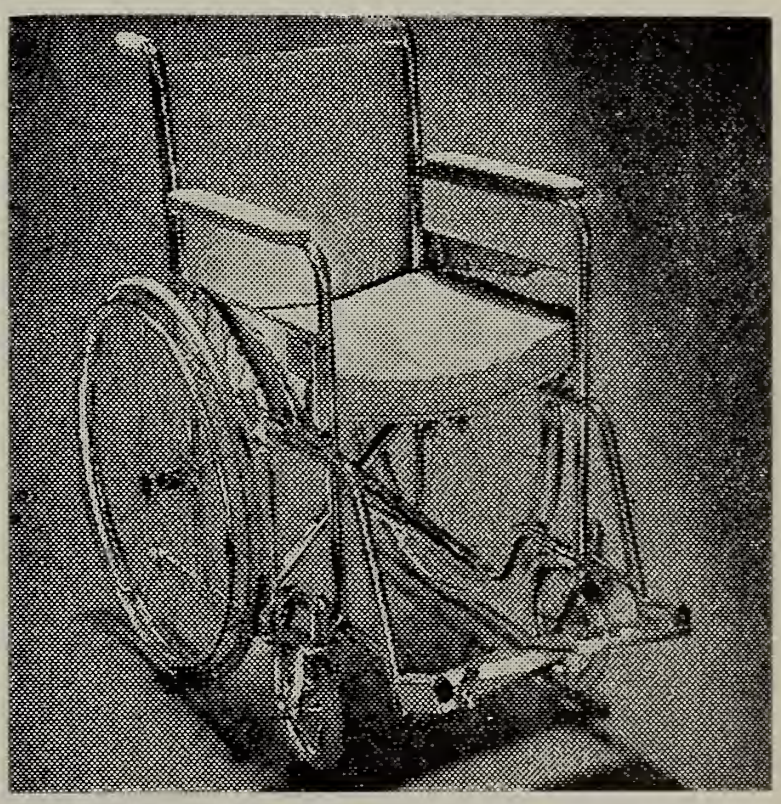
Family Limit — Three Children

With the passage of legislation now before the Indian Government 46,000,000 Hindu men will have to be sterilized. The purpose of this law is to limit every family to no more than three children and its proponents hope to put it into action by 1969.

The penalty for failure to comply with the proposed law includes higher taxes for large families, no free education for the fourth child, no free medical care and no family housing loans. Working women will not be permitted maternity leave after their third child.

When a government controls housing, medical care and education, the mechanics for any other kind of control are well established. The facts that India is far away and its problems seem foreign to those in the United States do not alter the historical observation that revolutionary trends are likely to begin in populous areas and if the original group survives the concepts may spread to other societies.

—**C. B. Dawson, M.D.,** Editor-In-Chief of the JOURNAL of the Oklahoma State Medical Association. Reprinted from the November, 1967 issue of the JOURNAL.



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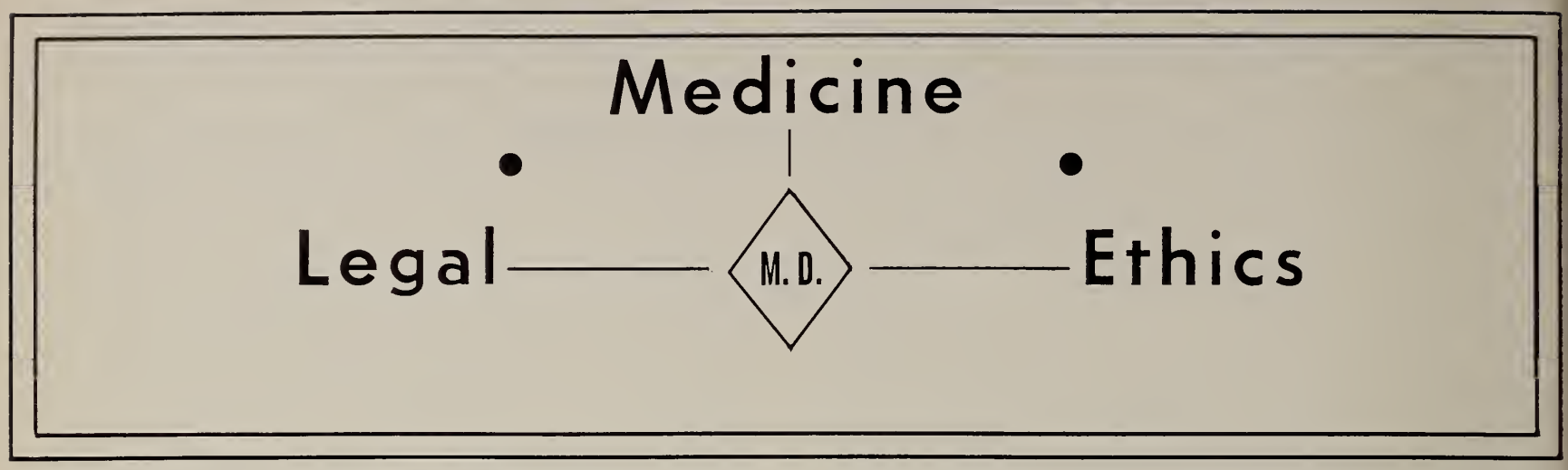


DEFAULT JUDGMENT AGAINST PHYSICIAN SET ASIDE

A trial court's order setting aside a default judgment against a physician for injuries caused by the physician's allegedly negligent surgical treatment was upheld by an Illinois intermediate appellate court. The patient's appeal from the trial court's order was dismissed.

An order of default was entered in the suit on June 29, 1965. On December 1, 1965, after hearing the suit as a default matter, the trial court entered a judgment of $25,000 against the physician. The physician filed a motion to vacate the judgment on December 13, 1965. On December 16, 1965, the trial court entered an order vacating the judgment and giving leave to the physician to file his answer or otherwise plead to the patient's complaint within 20 days. It was from that order that the patient sought to appeal.

Appeals are allowed only when there has been a final judgment. An order vacating a default is interlocutory and is, therefore, neither final nor appealable.

* * *

PHYSICIANS AND HOSPITAL NOT LIABLE FOR MISDIAGNOSIS OF TUBAL PREGNANCY

In a suit for damages against two physicians and a hospital for injuries resulting from their alleged negligence in misdiagnosing her tubal pregnancy as pelvic inflammatory disease, a verdict in favor of the physicians and the hospital was directed by an Illinois trial court. It was claimed that the misdiagnosis subsequently made necessary the performance of a hysterectomy on the patient. The evidence failed to show any deviation from the accepted standards of practice in the treatment of extrauterine pregnancy, the court said.

* * *

CRITICISM TO BE AVOIDED

When a physician does succeed another physician in charge of a case he should not disparage, by comment or insinuation, the one who preceded him. Such comment or insinuation tends to lower the confidence of the patient in the medical profession and so reacts against the patient, the profession and the critic.

* * *

DEPENDENCE OF PHYSICIANS ON EACH OTHER

As a general rule, a physician should not attempt to treat member of his family or himself. Consequently, a physician should cheerfully and without recompense give his professional services to physicians or their dependents if they are in his vicinity.

* * *

COMPENSATION FOR EXPENSES

When a physician from a distance is called to advise another physician about his own illness or about that of one of his family dependents, and the physician to whom the service is rendered is in easy financial circumstances, a compensation that will at least meet the traveling expenses of the visiting physician should be proffered him. When such a service requires an absence from the accustomed field of professional work of the visitor that might reasonably be expected to entail a pecuniary loss, such loss may, in part at least, be provided for by the compensation offered.

Information provided by the Law Department of the American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

NEW FACULTY

Several new appointments were made recently to the faculty of the School of Medicine.

Dr. Gary D. Small was appointed Assistant Professor of Biochemistry and assumed his duties at USD this summer. Dr. Small received his B.S. degree from Wayne State College (Nebraska) and his Ph.D. in Biochemistry from Western Reserve University in 1965. During his doctoral research, he discovered and purified an enzyme that catalyzes the hydrolysis of the terminal phosphate of adenosine tetraphosphate. More recently, his research interests have been concerned with the mechanism of inactivation and photoreactivation of tobacco mosaic virus RNA. Prior to his appointment here, he was a postdoctoral fellow at the University of Washington.

President Moulton recently announced the appointment of Dr. Robert J. Peanasky as Associate Professor of Biochemistry. Dr. Peanasky was awarded a B.S. degree in Chemistry (cum laude) and an M.S. degree in Biochemistry from Marquette University. His Ph.D. is in Biochemistry and was awarded by the University of Wisconsin in 1957. He was a postdoctoral trainee of the National Science Foundation, a USPHS Senior Service Fellow and was given a career development award in 1962. Dr. Peanasky served as Associate Professor of Biochemistry at Marquette University until 1966 when he was granted a travel award from the Commonwealth Fund to study for a year at the Institut de Chemie Biologique in Marseille, France. His research interest is in the area of enzymology and he has authored several papers concerning the enzymes trypsin and liver aldolase. A native of Michigan, Dr. Peanasky is married and has five sons.

Dr. Kenneth L. Bailey has been appointed Assistant Professor of Pharmacology. He received his Bachelor's degree in Chemistry from Bellarmine College (Kentucky), a Master's degree from the University of Louisville in 1961 and a Ph.D. in Pharmacology from the University of Louisville School of Medicine in 1967. Dr. Bailey is interested in the secretion of hippuric acid in the mammalian kidney and has developed a mathematical model to explain the secretion of this and related compounds. His model has been able to explain most of the data currently available and has been able to predict certain new data which has since been confirmed. Dr. Bailey is a native of Cleveland, Ohio, is married and has five children. He joined the USD faculty in December.

Dr. M. Jack McBroom was appointed Assistant Professor of Physiology and joined the Medical Faculty in January. He received his B.S. degree from Northwestern State College (Oklahoma), and a Master's degree from Oklahoma State University in 1965. He completed work on his Ph.D. degree in Physiology in 1967 as a NASA Predoctoral Fellow at the University of Oklahoma. Dr. McBroom's research interest is bone electrolyte changes that occur with aging.

This brings the total number of full time basic science faculty members holding doctorates to 20, which is still less than the number of faculty we had 6 years ago and is considered to be insufficient for the current Medical School operation.

APPOINT VETERINARIAN

Dr. Sidney E. Milburn, of Elk Point, South Dakota, was appointed staff veterinarian of the School of Medicine on November 15, 1967. Although on a part-time basis, Dr. Milburn will have supervisory responsibility for the animal quarter-kennel operations and will work with the Animal Care Committee and the Dean's Office.

A current inventory reveals a variety of animals in residence in the animal quarters and includes approximately 50 rabbits, 250 mice, 200 rats, 12 cats, 10 guinea pigs, 12 chickens, several turtles and some 200 frogs. The facility is also expected to care for monkeys, sheep, hamsters, ferrets, chicks, and several other varieties

of experimental animal should the need arise. Due to the obvious differences in dietary and environmental requirements, sanitary facilities and new federal statutes concerning animal quarters, a qualified veterinarian is a necessary addition to the Medical School staff.

Dr. Milburn received his B.S. degree at Southern University (Alabama) and his D.V.M. at the Tuskegee Institute. Since graduation he has been a practicing veterinarian in Elk Point. Dr. Milburn was born and raised in Louisiana, is married and has two children.

(Continued from Page 69)

President Johnson appointed a National Advisory Commission to make recommendations on health facilities needed by the United States in the future. The chairman is Boisfeuillet Jones of Atlanta, Ga., president of the Emily and Earnest Woodruff Foundation and a former special assistant for health and medical affairs for the Department of Health, Education and Welfare.

* * * *

The recently-enacted Vocational Rehabilitation Act of 1967 creates a National Center for Deaf, Blind Youth and Adults, sets up a special system to grant federal aid, through state rehabilitation agencies for handicapped migrant workers, continues the federal-state financing system of state rehabilitation agencies for another two years, extends for another year federal planning grants to states studying the needs of the disabled, and eliminates state residency requirements for proving residency before aid can be received.

An intensive program on "Current Concepts in Cardiology," is being offered by the Institute for Cardiovascular Diseases at Good Samaritan Hospital, Phoenix, Arizona and the American College of Cardiology. This meeting will be held at Del Webb's Towne House, Phoenix, Arizona on January 10, 11 and 12, 1968. Program Director, Alberto Benchimol, M.D. with Guest Faculty, E. Grey Dimond, M.D., William Chardack, M.D., Darrell D. Fanestil, M.D., Mr. Dean Franklin, George C. Griffith, M.D., Paul G. Hugenholtz, M.D., Albert A. Kattus, Jr., M.D., C. Walton Lillehei, M.D., Oscar Magidson, M.D., Alfred Pick, M.D., Robert L. Van Citters, M.D. This is an official program of the American College of Cardiology. The Institute of Cardiovascular Diseases Faculty consists of Alberto Benchimol, M.D., Lee Brown, M.D., Lee Ehrlich, M.D., and Marian Molthan, M.D. For information about this program write to William D. Nelligan, Executive Director, American College of Cardiology, 9650 Rockville Pike, Bethesda, Maryland 20014.

ANNUAL MEETING NOTICE

SDSMA members are WELCOME and are urged to attend all meetings of the House of Delegates, though they do not have the privilege of the floor except as the House may suspend the rules.

ANY MEMBER OF SDSMA HAS THE RIGHT TO SPEAK AT ANY OF THE REFERENCE COMMITTEE MEETINGS HELD BETWEEN THE FIRST AND SECOND REGULAR HOUSE OF DELEGATES SESSIONS.

Plan to attend the 1968 meeting and make your thoughts known.

MAKE 1968 A GREAT MEETING

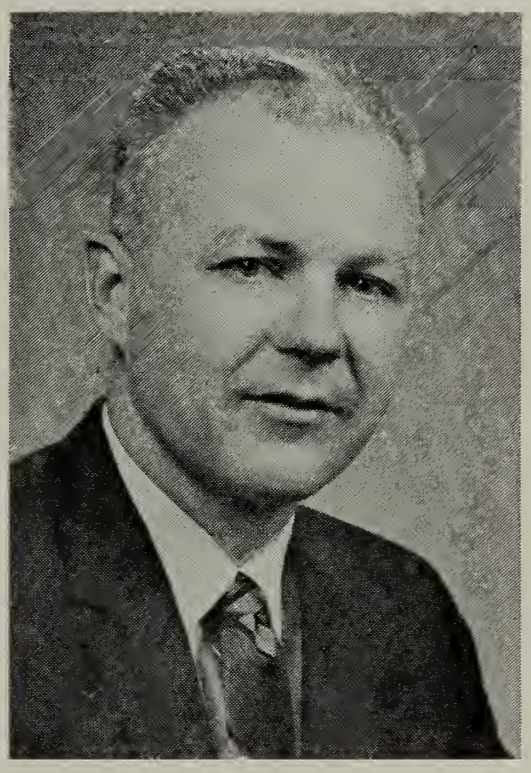
1959	203	
1960	156	
1961	226	
1962	79	Bismarck
1963	195	
1964	180	
1965	189	
1966	184	
1967	172	

1968 — 300

Plan to attend

Holiday Inn, Aberdeen
May 18-21, 1968

PRESIDENT'S PAGE



This is the traditional time to review the year past and to anticipate the coming year. It seems reasonable to review our activities and to assign priorities to them.

We will all have a different set of priorities, but most of us will have our family at or near the top of our list. As a group, physicians are excellent providers. Many of us tend to forget that our families need and are entitled to more than provisions. They need and want most our time, our interest and attention, our concern, and our love. These often seem much harder to give than things material.

F. Daniel Gillis, M.D., gave some advice to physicians via this President's Page a few years ago. As I recall, the advice was written from poolside in Florida in the winter of 1956. In essence he said that we should vacation more with our families and that we should establish the habit early in our careers rather than later. This impressed me as extremely good advice at the time; I have come to appreciate it more with each passing year.

Might just be some good food for thought on these cold winter nights.

John J. Stransky, M.D.

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News Notes • Changes • Births • News

Pop's Proverb

Many an uncouth exterior covers tender emotions and a gentle heart.

George W. Knabe, Jr., M.D. and **Charles R. Gaush, Ph.D.,** co-authored an article in the May, 1967 issue of The SOUTH DAKOTA JOURNAL OF MEDICINE, describing the shipment of specimens for rabies examination. **DOCTORS PLEASE NOTE** that the specimens from east of the River are sent to the veterinary department at Brookings whereas from west of the River they go to the State Department of Health in Pierre.

* * *

The North Central Medical Conference was held in St. Paul on October 29, 1967. Those physicians and staff representing the South Dakota State Medical Association included **Drs. John Stransky, Robert Hayes, Edward Perry, Mary Sanders, Robert Quinn, David Gregory, Arthur Reding, Robert Buchanan** and **Edward Lietzke.** In addition Richard Erickson, Executive Secretary, Robert Johnson, Director of Public Relations and Patty Butler, Administrative Assistant, attended the meeting.

Dr. Robert Quinn of Sioux Falls, Alternate Delegate to the AMA, participated in a closed circuit T.V. program during the AMA Clinical Program in Houston, Texas. The program was fashioned after the College Bowl quiz program and pitted three northern physicians against three southern physicians. Dr. Quinn was selected as one of three physicians to represent the north.

* * *

Alan K. Brevik. M.D. announced that he will begin independent practice of medicine in Watertown.

YOUR CONTRIBUTION TO THE SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT FUND IS NEEDED

At a recent meeting of the Lincoln County 4-H, **T. A. Angelos, M.D.** was awarded the Meritorious Service Plaque for outstanding service and cooperation with the 4-H program.

* * *

John McCann, M.D. spoke at a meeting of the Farm Bureau in Parkston on his experiences in Vietnam.

* * *

Magni Davidson, M.D. was honored at the annual banquet of the Brookings Chamber of Commerce. Members of the Chamber presented him with the "Special Award of Merit" for 1967.

* * *

"Drugs and Your Health" was the subject of a speech presented by **Robert Shaskey, M.D.** at a meeting of the Future Homemakers Association in Brookings.

* * *

Roscoe Dean, M.D. addressed the Future Nurses Club in Wessington Springs on "Medical Careers."

* * *

St. Ambrose College of Davenport, Iowa, honored **Robert Hayes, M.D.** by naming him as one of fourteen commended for community meritorious service.

Physicians attending the AMA Clinical Convention in Houston, Texas in November included **Drs. Art Reding,** Marion; **Robert Quinn,** Sioux Falls; **John Stransky,** Watertown; **Art Lampert,** Rapid City; **George Knabe,** Vermillion, Dean of the Medical School, and **Robert Buchanan,** Huron. Also attending the meeting was Richard C. Erickson, Executive Secretary of the State Medical Association.

* * *

G. Robert Bartron, M.D. spoke on America's "patriotic health" at Veterans Day services held in Watertown.

* * *

At a meeting of the trustees of the Belle Fourche hospital and nursing home **Sion Sherrill, M.D.** was appointed Chief of Staff for 1968.

* * *

R. Natarajan, M.D. has opened his office in Rapid City for the practice of psychiatry and neurology.

* * *

Dr. Arthur Lampert, Rapid City, appeared on closed circuit T.V. during the AMA Clinical Meeting in Houston, Texas. Dr. Lampert, a member of the AMA's Council on Legislation, participated in a discussion of current legislative activities along with other members of the Council.

* * *

L. J. Sweeney, M.D.; N. E. Wessman, M.D. and **William Rossing, M.D.** participated in panel discussions sponsored by the Sioux Falls PTA City Council on "Family Life and Sex Education," held at several Sioux Falls grade schools.

* * *

L. W. Holland, M.D. held a measles clinic in Chamberlain.

South Dakota physicians attending the twelfth annual meeting of the North Dakota Chapter of the American Academy of General Practice in Bismarck, North Dakota were **Robert Bell, M.D.; Paul Reagan, M.D.; D. F. Dzintars, M.D.; A. P. Reding, M.D.; E. T. Lietzke, M.D.; J. S. Devick, M.D.; Paul Aspaas, M.D.; W. J. Kovarik, M.D.; John D. Freeman, M.D.** and **John Stransky, M.D.**

* * *

Assuming the duties of head resident pathologist for the Watertown hospitals is **Alden Heupel, M.D.**

* * *

Richard Weaver, M.D., consulting pathologist, spoke at a dinner meeting of the Hans P. Peterson Memorial Hospital in Philip.

* * *

At a meeting of high school students representing four towns in southeastern South Dakota **Robert J. Foley, M.D.** spoke on opportunities in medicine and related areas.

* * *

To be included in the fourth edition of the Dictionary of International Biography is **Robert E. Bormes, M.D.** of Aberdeen. This publication is a record of contemporary achievements and is distributed throughout the world.

* * *

V. V. Volin, M.D. was honored as a recipient of the Alumni Service Award presented at the Sixth Annual Alumni Recognition banquet at South Dakota State University in Brookings.

* * *

B. T. Otey, M.D. was honored as citizen of the month by the Civic and Commerce Association of Flandreau.

A. P. Reding, M.D. represented South Dakota at a recent meeting of the American Academy of General Practice in Denver.

* * *

Acting as chairmen of diabetes detection drives in the various district medical societies were **M. L. Radack, M.D.,** Yankton; **Mary E. Sanders, M.D.,** Redfield; **R. E. Dean, M.D.,** Wessington Springs and **D. L. Scheller, M.D.,** Arlington.

* * *

Dr. R. G. Belatti of the Madison Clinic presented the November programs for the PTA meetings in Bridgewater, Montrose, and Humboldt.

The programs included a talk by Dr. Belatti on "Smoking and Lung Cancer" and "Chronic Obstructive Lung Disease." His programs were concluded with a colored slide presentation.

* * *

Bruce Lushbough, M.D., President of the Brookings Area Mental Health Association presided over the Chapter's annual meeting.

* * *

Robert Hayes, M.D., Coordinator of the Nebraska-South Dakota Regional Medical Program, addressed the annual convention for licensed practical nurses in Sioux Falls.

* * *

Recently promoted to Chief of Staff at the Veterans Administration Center in Sioux Falls was **Victor J. Soukup, M.D.** of Danville, Illinois.

* * *

H. Russell Brown, M.D. served as panel moderator at Blue Shield's annual program conference held in Washington, D. C.

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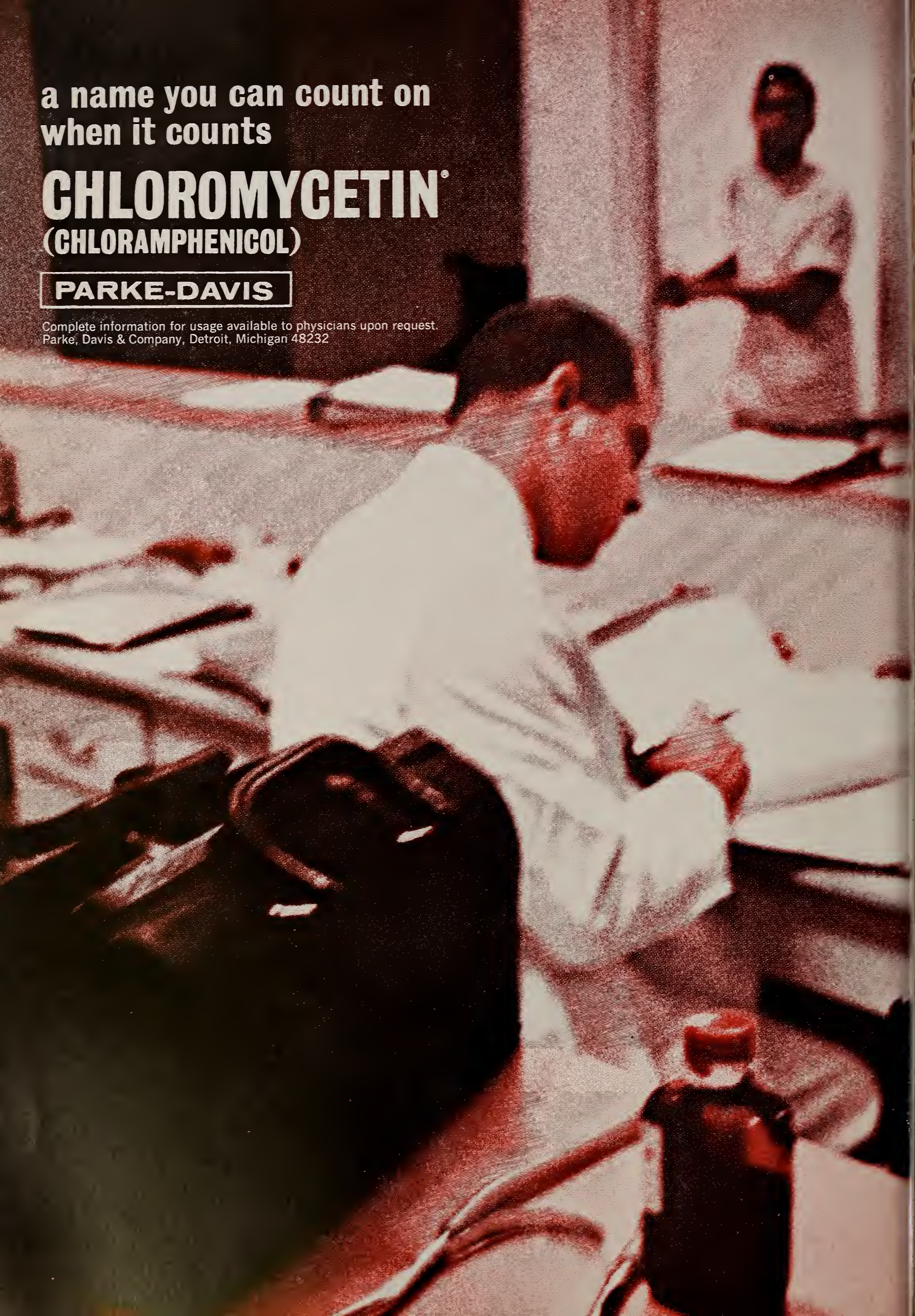

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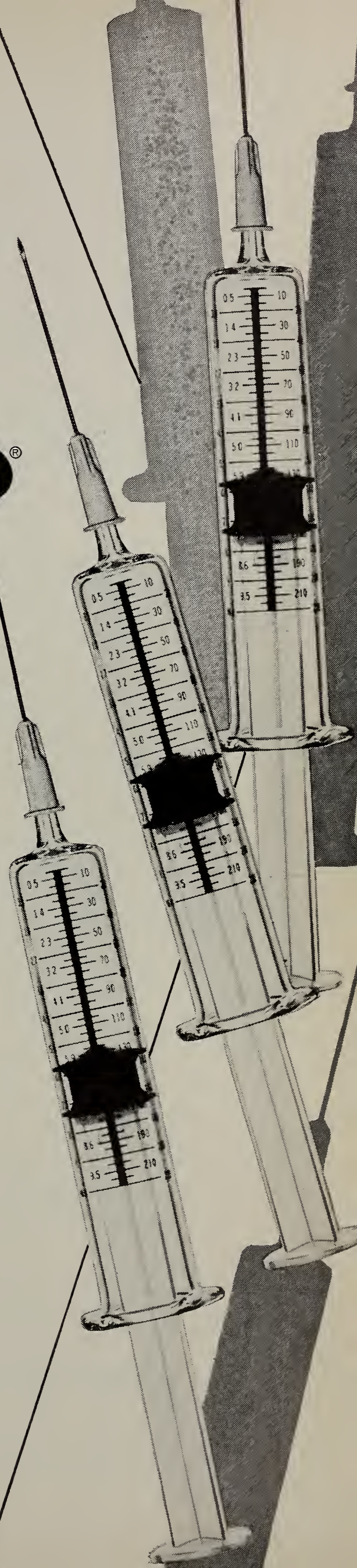

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JOURNAL OF MEDICINE

**JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
AND THE SIOUX VALLEY MEDICAL ASSOCIATION**

Volume XXI **February, 1968** **Number 2**

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THE IMPORTANCE OF ENVIRONMENT CONTROL IN THE PREVENTION OF UPPER RESPIRATORY INFECTIONS

John B. Gregg, M.D.
and
Warren R. Anderson, M.D.
Sioux Falls, South Dakota

Too frequently it is the experience of the physician who deals primarily with diseases of the upper respiratory passages to hear that the patient had "every antibiotic in the book," cold shots, flu vaccines, antihistamines and other anti-allergy treatment, vitamins, and other drugs, but is still troubled with persistent colds, sinusitis, and sore throats all Winter. Several physicians may have been consulted but the trouble has persisted despite different therapy. Careful questioning often elicits the fact that no effort has been made to modify his living environment, work conditions, and habits, to protect the chastity of the damaged mucous membranes so that they can heal themselves. Fortunately it is gradually being recognized that physical irritants such as smoke, alcohol, industrial fumes, and chemicals, found in the homes and work environments affect the ability of the upper respiratory mucous membranes to resist the onslaught of infections. Prolonged exposure to very cold air or violent fluctuations in environmental temperature have also been implicated as damaging to the respiratory mucous membranes. It is the purpose here to emphasize environment control to prevent and treat colds and their sequellae.

As with other persistent, recurrent, annoying diseases, the treatment of the common cold periodically goes through phases of popularity, each form of therapy fading when the next nostrum arrives. Some years ago it was several of the vitamins. Later there appeared the "cold shots," autogenous vaccines, the antibiotics, and the antihistamines. More recently there has been enthusiasm about the adenoviruses and the rhinoviruses as causes for the common cold. About 15 years ago there were 7 or 8 cold producing adenoviruses known: now there are reported to be about 155 adenoviruses, each capable of causing the subjective symptoms and the objective findings associated with the common cold. The increasing recognized number of adenoviruses capable of stimulating symptoms of upper respiratory infections would suggest that reliance upon a vaccine as a means of preventing the common cold may not be the final answer. Patients could be immunized to all known viruses but if there were others capable of causing a cold and any of these were contacted by the susceptible individual, a cold would result. All of this suggests that perhaps other equally important factors are not receiving enough emphasis in the control of the common cold.

It must be pointed out that the common cold is primarily a disease of Winter. Individuals living in a warm, moist climate year around or those who can migrate South in inclement weather have few upper respiratory infections, while those living in an area where Winter is severe have many colds. There is considerable individual variability in resistance to colds. Persons living in the northern part of this country

usually have few respiratory infections in the warm weather but about the time that the furnaces go on they have their first "Fall cold." The various "flu" viruses, adenoviruses, rhinoviruses, and bacteria, with the propensity for causing upper respiratory infections are present throughout the year in places having a bad Winter season but their effects are not manifest until it gets cold. The obvious question arises as to what is the common denominator(s) in this situation which activates the infectious agents in the Winter but prevents their injurious effect in the Summer? Careful appraisal of the situation suggests that it is the weather. The two biggest differences between the Winter and the Summer are the temperature of the air and its humidity. Both of these have been shown to be influential in the integrity of the respiratory mucous membranes.

Normally the membranes of the interior of the nose and sinuses are coated with a thin film of mucous. This mucous blanket is moved from the front to the back of the nose by the action of the cilia in about 20 minutes, carrying dust and dirt particles from the air, bacteria, and other inhaled foreign material. The mucous passes into the stomach where any bacteria are neutralized and the foreign material is eliminated from the body. The membrane of the nose also acts as an air conditioning system for the throat and lungs, warming and moistening the inspired air. About 1,000 cc of water is said to be evaporated in the nose each 24 hours, about 1/25 cc per breath. The amount of water actually lost from the body varies inversely with the humidity of the ambient air, less in the Summer, more in the Winter. If the air is excessively dry, an additional strain is placed upon the nasal mucous membranes to supply the moisture. When these break down under the unusual strain imposed upon them by the Winter air, the mucous thickens, stagnates, and the ciliary action slows. Infectious agents in the nose are then deposited upon the mucosa, penetrate it, and initiate an infection in it. The physician who does routine examinations upon big groups of children in schools during the Winter of the year will be impressed by the large number of these children who manifest dried, scaly, crusted, markedly swollen, inflamed, reddened, and bloody nasal mucous membranes. It is not difficult to determine which children come from home environments where an effort has been made to control the humidity.

If the respiratory mucous membranes are exposed to very cold air for extended periods of time, damage occurs. Long ago the Eskimos learned the protective value of the parka with a flap of fur to cover the upper respiratory passages when subjected to very low temperatures. Civilization has bred contempt for the practices born of necessity, to the detriment of all. Recently foul weather masks have been reintroduced by the armed forces and commercial firms. An electrically heated facial mask has been advocated to assist asthmatics, sufferers from emphysema, and other chronic debilitating respiratory diseases. However, with all of these we can only modify the irritation of the cold air; our real hope for prevention lies more in the realm of conditioning the indoor air. The effect of lowered temperature and wind will be seen in the U. S. Army's Wind Chill Chart (See Table ♯1).

Table ♯1. Army Wind Chill Chart

Wind Speed (mph)	Actual Thermometer Reading (F) 30	20	10	0	—10	—20	—30	—40
	Equivalent Temperatures (F)							
Calm	30	20	10	0	—10	—20	—30	—40
5	27	16	6	—5	—15	—26	—36	—47
10	16	4	—9	—21	—33	—46	—58	—70
15	9	—5	—18	—36	—45	—58	—72	—85
20	4	—10	—25	—39	—53	—67	—82	—96
25	0	—15	—29	—44	—59	—74	—88	—104
30	—2	—18	—33	—48	—63	—79	—94	—109
35	—4	—20	—35	—49	—67	—82	—98	—113
40	—6	—21	—37	—53	—69	—85	—100	—116

Table ♯2. Relative Humidity Compared to Absolute Humidity (70°F)

Relative Humidity in %	Absolute Humidity (Grains H20/cu. ft. air)
100	7.2
90	6.4
70	5.6
60	4.8
50	4.0
40	3.2
30	2.4
20	1.6
10	.8

Table ♯3. Temperature/Humidity Ratio for Condensation on Windows (Inside Temp. 70°F.)

Rel. Humidity (%) Inside	Outside Temp. (F.) at Which Condensation Occurs Single Glass	Double Pane Glass
50	43	18
45	38	11
40	34	2
35	28	—8
30	22	—20
25	15	—30
20	8	
15	0	
10	—11	

Table ♯4. Comfort Level Rel. Humidity/Temp. Inside

Rel. Humidity (%)	Comfortable Temp. (F)
10	76
20	74
30	72
40	70
50	68

Relative humidity (expressed as a percent) may be defined as a ratio between the actual amount of moisture contained in a given volume of air and the total amount of moisture which can be contained in this same quantity of air at a given temperature. (See Table ♯2). At the saturation point, 100%, precipitation occurs as dew, rain, snow, frost, sleet, or hail, depending upon the ambient temperature and the rapidity of the temperature change. It is because of these factors that precipitation can occur on windows in a house which actually has poor relative humidity, leading an individual to have a false impression about the moisture content in his environment. (See Table ♯3). The average house in South Dakota is extremely porous, allowing moisture to escape from it rapidly. For this reason it is most important to humidify the air in homes **constantly**, not just sporadically, in cold weather. The human body feels comfortable at a lower temperature in the Winter if the relative humidity is high and as a result the cost of heating a home can be reduced definitely by the addition of moisture to it. (See Table ♯4).

Although in the Winter on a cold day the relative humidity of the outside air may be reported as an apparently adequate figure, this can be misleading to the individual who is unaware of the implications of the term "relative." If a given volume of air at 0° (F) and 60% relative humidity be taken into an environmental temperature of 72° (F) without the addition of water, its relative humidity will drop to about 3%. (See Table ♯5). Very frequently during the coldest part of the Winter, the relative humidity in South Dakota houses, buildings, and public and private vehicles is much less than the average relative humidity in the Sahara Desert and Death Valley (20-30%).

An optimum indoor moisture and temperature ratio for human health and comfort is about 30-40% relative humidity at 68-72° (F). A child with croup or a person with a respiratory infection will require a much greater relative humidity (70—90%). Although a rough rule of thumb, one gallon of water per room of home per day, will usually provide adequate moisture on a cold day, some houses may require over 20 gallons of water per day to insure adequate relative humidity. In the prevention of respiratory mucous membrane diseases in children and adults, the schools and the work environments are the weakest link in the chain. Adequate moisture content may be maintained at home, but the school aged child and the working parents spend one half of the day away from the home. It will be a great step forward in the prevention of the common cold when the school boards of our communities and the management of various public buildings become convinced that it is as important to humidify buildings as it is to heat them. **If more attention were paid to humidity in schools in the Winter and less to air conditioning other seasons, there would be decreased pupil and teacher absence, fewer visits to the family physician and druggist, and a much healthier school population in South Dakota.**

It will be noted that there is considerable difference in the degree of relative humidity recommended above and that which is suggested by the "building trade." (About 20% R.H. as 0° (F) is approached). The house builders are concerned about "sweating" of the walls, windows, and other parts of the structure, leading to peeling of paint, cracking of plaster, and warping of the windows. We believe that the health of the occupant is more important than

Table ♯5. Humidity Conversion Chart (Indoor Rel. Humidity When Outside Air is Heated to 72°)

Outdoor Relative Humidity %	2%	3%	4%	6%	7%	9%	11%	14%	17%	21%	26%	31%	38%	46%
100	2	2	4	5	6	8	10	12	15	19	23	28	34	41
90	2	2	4	5	6	7	9	11	14	17	20	25	30	37
80	1	2	3	4	5	6	8	10	12	15	18	22	26	32
70	1	2	3	3	4	5	7	8	10	13	15	19	23	28
60	1	1	2	3	4	4	6	7	9	10	13	16	19	23
50	1	1	2	2	3	4	4	6	7	8	10	12	15	18
40	1	1	1	2	2	3	3	4	5	6	8	9	11	14
30	+	1	1	1	1	2	2	3	3	4	5	6	8	10
20	+	+	+	1	1	1	1	1	2	2	3	3	4	5
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	—20°	—10°	—5°	0°	+5°	+10°	+15°	+20°	+25°	+30°	+35°	+40°	+45°	+50°

OUTDOOR AIR TEMPERATURE

+ = Less than ½%

* Chart Devised and Copyrighted, and reproduced with permission from Hamilton Humidity, Inc., 3757 W. Tuohy Ave., Chicago, Ill.

the structure of the house and for this reason recommend to patients that the higher moisture content be their goal.

Often extolled by unsuspecting individuals as preventive of colds are the virtues of steam, electric, or other forms of radiant heat. These may be slightly less irritating than hot forced air, but unless moisture is added somewhere along the line, there is no difference in their effect upon the respiratory mucous membranes.

Water vapor in the air follows physical laws appropriate for other gasses. It will fill a container, provided there is no obstruction to its flow, and achieve a state of equilibrium in the container, the concentration depending upon the volume of the container and the amount of water vapor. All systems for increasing the water vapor content of the air depend upon the principles of exposure of a volume of dry air to an available moisture source so that absorption can occur, and dispersal of the moistened air into the environment. Commonly encountered are discussions regarding the advantages of "hot" versus "cold" humidification. Careful evaluation reduces this to a problem more in semantics and economics than one of practicality. Steam by definition is water to which has been added a definite quantity of heat, after which it becomes a vapor and if unconfined, disperses itself in the air. "Cold steam" is a term copyrighted by a humidifier company, meaning water which has been broken into tiny droplets and then dispersed into the air for absorption as a fine mist. Other manufacturers of cold humidifiers utilize this same basic process, modified, while a third group use different types of moving porous belts, constantly soaked with water, and a fan to evaporate the water into the air. Although some moisture can be added to the environment by placing pans of water around the home and humidifying units which consist of a flat container of water in the furnace, these methods of humidification leave something to be desired. The efficiency of the furnace unit can be increased by the use of porous plates, dipping into the water and projecting into the air stream. The system using porous plates is more effective if the plates are changed regularly. To promote optimum humidification a system having measures for the active dispersal of moisture into the environment is better. When forced hot air is the method of heating the home, the furnace humidifier, regardless of its type, can be considered a starting point for total humidification. We feel that the family should be encouraged to get the largest humidifier recommended for their furnace. If this unit does not maintain the recommended 30—40% R.H. at 68—72° (F), then additional moisture must be added with supplementary humidifiers, one of the cold units being the most practical. We have found this approach to be quite successful for three reasons: 1) Many new homes due to fresh plaster, potted plants, and cooking, seem to reach the optimum humidity range easily with the intra-furnace humidifier system which is "automatic." 2) If the system is "automatic," i.e., has a constant water supply pipe and a mechanism for control of water flow, it is more likely to be used constantly because no filling is required. 3) It is easier to bring the relative humidity in the sick room to 50—70% when the additional cold or hot humidifier **supplements** the furnace unit. In homes having other than forced air heating, total reliance must be placed upon one or more humidifying units placed strategically in the house. Better over all humidification in the home is achieved by leaving doors between rooms open to avoid compartmentalization.

Hot steamers have a heating unit which produces actual steam which escapes into the air. They have the disadvantage of relatively high operational cost, slow evaporation of water, (½ to 1 gallon of H_2O/8-12 hours) and a marked tendency to become corroded in areas where there is hard water. The cold humidifiers have greater capacity (1-10 gallons) and can evaporate much larger quantities of water per day at less cost. They also have the disadvantage of becoming plugged by pollutants in the water and some may emit a disagreeable odor due to the growth of fungi, if not cleaned regularly. The porous belts wear out with time necessitating replacement. A deposit of fine powder upon objects in the room from chemicals dissolved in the water is an objectionable feature of humidifiers which employ dispersion or nebulization of water. The corrosion in hot steamers and the fine powder film, clogging, and odor in the cold humidifiers can be minimized by the use of distilled water. However, this greatly increases the cost of operation, especially if a large volume of water is being put through the unit each day for a long interval. Decreased growth of fungi and odor is the claim of one manufacturer, by the addition of a chlorophyl solution to the water in the humidifier. The use of pungent compounds such as Tincture of Benzoin or Eucalyptus Oil in humidifiers has questionable

merit. Not only is their use more psychological than medical, but they form gummy films in the units, impairing their function.

There are many good humidifier units produced by several different manufacturers. The physician should familiarize himself with several of them so as to be in a position to advise his patients regarding their availability, function, and approximate cost.

CONCLUSIONS

The purpose of this paper is not to sell humidifiers, but to promote healthy respiratory mucous membranes. It has been the experience of the authors and others who deal very frequently with diseases of the respiratory mucous membranes, especially those of the nose and throat, that there is too much emphasis on the **treatment** of the "common cold," and not enough impetus toward its **prevention.** Immunization to the many viruses established as potentially producing colds may be possible but the present state of knowledge pertaining to the infectious agents capable of causing colds is incomplete. Drugs have little potential as preventive agents, other than assuring adequate intake of essential nutritional requirements.

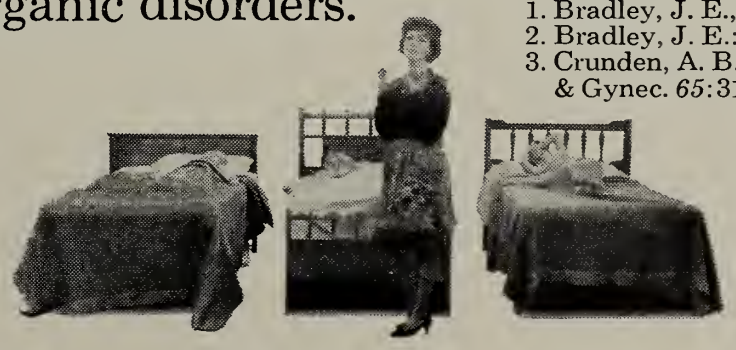
In view of the fact that the common cold and its sequellae are largely problems of Winter, it is apparent that the weather is the largest common denominator in the incidence of respiratory infections. The two big differences between Summer and Winter are the **temperature** and the **moisture content** of the ambient air. Modification of these by environment control, to improve the health of the respiratory mucous membranes in the Winter, will help tremendously in the prevention of colds and their complications. An optimum indoor relative humidity/temperature ratio, regardless of outside temperature is 30—40% at 68—72° (F). To maintain this level, active measures to insure the moisture content of the environment constantly are imperative. A great step forward in the prevention of the "common cold" will be achieved when the critical attention of each family and community is focused on the subject of humidity control in the homes, schools, and public buildings, during the Winter.

NOTE: An extensive bibliography has been compiled and will be made available to interested individuals.

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.



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phosphorated carbohydrate solution
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Nothing else I've tried seems to work, so I decided to give you a crack at it.

Some U.R.I. patients are more miserable than others.

That's why we make Novahistine® tablets in two different formulations.

And let you control the dosage.

With Novahistine LP tablets and Novahistine Singlet tablets you have the range and flexibility of decongestant dosage that lets you prescribe for the needs of the individual patient.

Novahistine LP tablets are most useful for relief of nasal congestion in patients without pain or fever.

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Whether you prescribe Novahistine LP or Novahistine Singlet, a total daily dose of 3 or 4 tablets will usually provide effective, continuous relief.

Use cautiously in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

Each Novahistine LP tablet contains phenylephrine hydrochloride, 25 mg.; and chlorpheniramine maleate, 4 mg.

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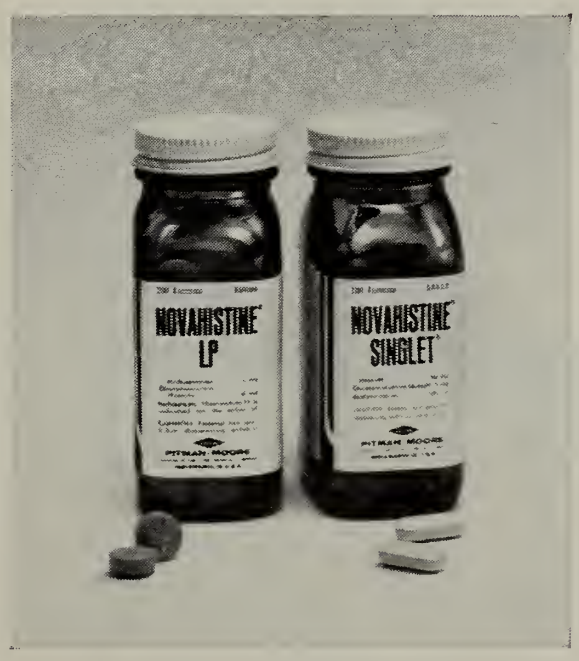

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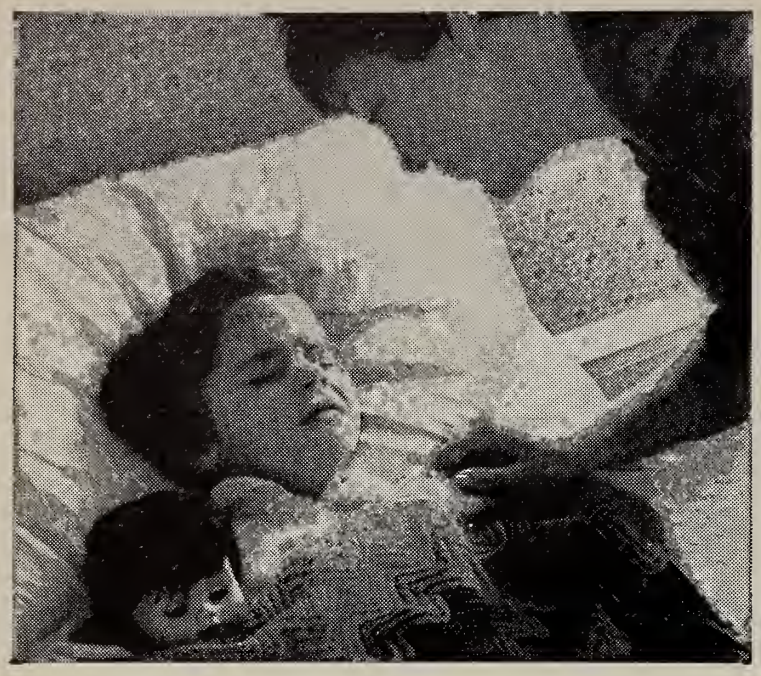

One by one the family's downed Because the G.I. bug's around

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
...consolidates fluid stools with pectin
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*Paregoric (equivalent) ..... (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
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Usual Adult Dose: One or two tablespoonfuls three times daily.
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BLUE SHIELD ENROLLMENT STEADILY CLIMBING

Sixteen Blue Shield Plans had enrolled more than 40 percent of the population in the areas they served during 1966, according to the Blue Cross-Blue Shield Fact Book recently published jointly by the National Association of Blue Shield Plans and the Blue Cross Association. Enrollment in Blue Shield as of the end of 1966 represented 27.9 percent of the population of the United States and 26.7 percent of the population of the Canadian provinces. "Few organizations in the health field today can boast a record growth equalling that of Blue Shield," the booklet concluded.

U. S. INFANT DEATH TOLL DECLINES

The nation's infant death rate continued to decline during the first half of 1967, according to the National Center for Health Statistics. The number of deaths of children under one year per 1,000 live births fell to a new low of 22.9 in the first six months of this year. HEW officials predict the death rate will continue to drop in the years ahead because of such factors as increased family income, increased emphasis on early access to high-quality medical care, greater availability of prenatal medical services, the spread of family-planning services, and a higher level of education.

NEW HEW REPORT ON SMOKING AND HEALTH

A three and one-half year study of the health consequences of smoking by the U. S. Public Health Service has confirmed and strengthened the findings the surgeon general issued in 1964. The 1967 report of the Department of Health, Education, and Welfare concluded that cigarette smokers have substantially higher rates of death and disability than do nonsmokers, and that a large portion of earlier deaths and increased disability might not have occurred if the affected persons had not smoked.

HEREDITARY TENDENCIES OF DIABETES NOTED IN STUDY

A family history of diabetes was indicated by a large proportion of the more than two million diabetics in the U. S. during 1964 and 1965, according to a U. S. Public Health Service report. Of these, approximately 17 percent had diabetic mothers, 8 percent diabetic fathers, 25 percent diabetic brothers or sisters, and 7 percent of the diabetic parents had diabetic children. It is also estimated that there are an additional 1.6 million persons in the U. S. who are unaware that they have diabetes.

Scientific PAPER

SOUTH DAKOTA PRENATAL CARE STUDY
IV. BABIES' BIRTH WEIGHTS

Brooks Ranney, M.D.*

Introduction:

Weights of the 10,606 babies whose births were studied ranged from less than one pound to almost fourteen pounds. These birth weights were grouped as noted in Table No. 1, so they could be related significantly to the answers of other questions in the "South Dakota Prenatal Care Study."

Table No. 1

Weight of Baby	Group Classification	
Less than 2 lb. 8 oz.	"Previable"	
2 lb. 8 oz. to 5 lb. 8 oz.	"Premature"	
5 lb. 8 oz. to 7 lb. 8 oz.	"Small"	Mature
7 lb. 8 oz. to 10 lb.	"Large"	Mature
More than 10 lb.	"Gross"	Mature

(7½ lbs. is the average birth weight in South Dakota.)

CORRELATIONS:

1. **Parity:**

Our study shows more "premature" and "small" babies born to primigravidas and secondigravidas, and more "large" and "gross" babies born to women who were having their fifth, sixth, or more, pregnancies (Table No. 2). The percentage of "gross" babies doubled after the fourth pregnancy.

Table No. 2
The Effect of Parity on Birth Weights
(Recorded in %)

Number of this pregnancy	"Previable"	"Premature"	"Small"	"Large"	"Gross"
First	.61	**6.39**	**51.22**	40.10	.64
Second	.38	**5.50**	**47.72**	44.21	1.08
Third	.40	5.05	44.37	46.90	1.54
Fourth	.38	4.36	43.92	**48.05**	1.63
Fifth	.69	5.21	42.75	**46.23**	**3.12**
Sixth or more	.49	4.51	38.75	**50.73**	**3.94**

2. **Prior Abortion:**

Mothers were asked, "Have you had any miscarriages?" Those answering "Yes" were three times more likely to have a "previable" delivery, and twice as likely to have a "gross" baby, this time, than were the mothers who had no prior abortion (Table No. 3). (Intermediate birth weight groups were not significantly modified.)

Table No. 3
The Effect of Prior Abortion on This Birth Weight
(Weight Group of This Baby Recorded in %)

	"Previable"	"Gross"
Had prior abortion	1.08	2.64
No prior abortion	.32	1.39

Likewise, the number of babies weighing in the "previable" and "premature" groups increased directly with the **number** of **prior abortions.** Apparently factors influencing prior abortions also stimulate premature labor or interfere with fetal growth (Table No. 4). (Other birth weight groups were not significantly modified.)

Table No. 4
Number of Prior Abortions, and This Birth Weight

Number of prior abortions	Number of mothers reporting	Weight Group of This Baby (Recorded in %) "Previable"	"Premature"
1	1634	.91	4.83
2	449	1.55	7.79
3 or more	214	1.40	9.34

* Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine and The Yankton Clinic, Yankton, South Dakota.
(Note: This is part of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetric Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic, and which benefited from the invaluable assistance of Dr. Neil Palmer, formerly from the Computer Center at U.S.D., now Chairman of the Department of Sociology, at the University of Toledo.

3. **Prenatal Care:**

Each mother was asked, "During this pregnancy, but before the time your baby was born, did you go to the doctor for prenatal care and examinations?" Those answering "Yes" (10,310) had much lower previable and premature delivery rates than the 246 mothers who had no prenatal care. It is interesting that the 50 mothers who did not answer this question had the highest (14%) previable delivery rate of all. (Probably birth weights were written on many of these 50 questionnaires by cooperating nurses in maternity sections of respective South Dakota Hospitals.) (Table No. 5)

Table No. 5
Effect of Prenatal Care on Birth Weights

Any prenatal care?	Number of reporting mothers	Weight Group of This Baby (Recorded in %) "Previable"	"Premature"
Yes	10,310	.42	5.27
No	246	2.84	9.34
No answer	50	14.00	4.00

Generally, those mothers who did not seek prenatal care until the last trimester had a higher incidence of **previable, premature,** or **small babies** than did those mothers who sought prenatal care earlier. There was no notable difference between those mothers who obtained prenatal care during the first trimester and those whose first prenatal visit was in the second trimester.

As one would expect, there is a direct relationship between the **number of prenatal visits** and the **size of newborn babies.** Smaller babies come earlier, allowing less time for prenatal visits. But the percentages of previable (6.84%) and premature (11.64%) deliveries, among the 246 mothers who had **no prenatal care,** are so high, one must conclude that part of this difference is due to lack of prenatal care — rather than a time factor — and that adequate prenatal care for these mothers might have decreased the incidence of previable and premature deliveries (Table No. 6).

Table No. 6
Number of Prenatal Visits, and Birth Weights

Number of Prenatal Visits	Weight Groups (recorded in %) Previable	Premature	Small	Large	Gross
None	**6.84**	**11.64**	46.57	27.39	.68
1 — 5	1.65	**9.18**	45.89	38.86	1.54
6 — 10	.24	5.69	**47.87**	43.45	1.52
11 — 15	.10	2.45	43.45	**51.57**	1.79
16 or more	.24	3.14	45.03	47.69	**3.38**

4. **Mothers' Weight Gain:**

We observed a direct relationship between **maternal weight gain** during the pregnancy and **babies' birth weights;** generally, the more maternal weight gain, the larger the babies (Table No. 7). Previable deliveries were unusually high, occurring in 8 of the 110 mothers who gained nothing or lost weight during their pregnancies (suggesting the presence of serious gastrointestinal disorders or hyperemesis gravidarum among these 8 women). (Table No. 7).

Table No. 7
Mothers' Weight Gain, and Babies' Birth Weights

Mothers' Weight Gained (or Lost)	Babies' Weight Groups (recorded in %) Previable	Premature	Small	Large	Gross
No gain (or loss)	**7.27**	**9.09**	40.00	39.09	2.72
Gained 1—15 lbs.	**1.48**	**10.10**	**52.01**	33.19	.92
Gained 16—20 lbs.	.26	**6.09**	**51.48**	40.41	.81
Gained 21—25 lbs.	.12	3.43	**45.85**	**47.68**	1.65
Gained 25—35 lbs.	.00	2.59	38.68	**55.45**	2.37
Gained 35 lbs. or more	.15	2.33	31.57	**60.34**	**4.35**

It is apparent that 65% of babies born to mothers who had gained over 35 lbs. were in the "large" or "gross" weight groups.

More than half the babies born to mothers who had gained between 1 and 20 lbs. weighed between 5½ and 7½ lbs.

About 93% of mothers who gained 16 to 25 lbs. had babies weighing between 5½ and 10 lbs.

Probably the ideal weight gain during pregnancy for a mother of moderate weight who is eating a balanced diet is between 16 and 20 lbs.

5. **Length of Labor:**

The only significant relationship between length of labor and fetal weight was that **precipitate labors** (2 hours or less) were twice to three times **more common** among women having **previable** or **premature babies,** than among women who had larger babies.

6. **Type of Delivery:**

Ninety-two percent of women having normal "spontaneous" deliveries had babies weighing between 5½ and 10 lbs. Forty-nine percent of forceps deliveries were accomplished for "large" babies, weighing between 7½ and 10 lbs. There was a higher incidence of breech deliveries (rather than normal, forceps, or section deliveries) among previable and premature babies. Many times these smaller babies have not turned (or have not been turned) to cephalic presentation. Because, in these small babies, the fetal head is so much larger than the torso, breech delivery includes additional risks for the baby.

Sections were most common among the "premature" babies (obstetric emergencies), "small" babies (possibly elective, repeat sections misjudged a little too early), and "gross" babies (probably cephalopelvic disproportion). (Table No. 8.)

Table No. 8
Type of Delivery and Birth Weights

Type of Delivery	Weight Groups (recorded in %) Previable	Premature	Small	Large	Gross
Normal	.51	5.09	**46.16**	**45.64**	1.68
Forceps	.05	3.32	46.00	**48.72**	1.43
Breech	**1.84**	**18.08**	46.49	30.62	.36
Section	.00	**11.44**	**52.10**	30.42	**3.01**

7. **Age of Mother:**

There is a direct relationship between maternal age and birth weight — younger mothers having more premature and small babies, and older mothers having more large and gross babies. In addition, it is interesting that mothers over the age of 40 show a noticeably higher incidence of previable and premature babies. (Table No. 9.)

Table No. 9
Maternal Age, and Birth Weights

Maternal Age	Number of Mothers	Weight Groups (recorded in %) Previable	Premature	Small	Large	Gross
0—14	7	.00	28.57	57.14	14.28	.00
15—17	282	**.70**	**9.92**	**47.87**	38.65	.70
18—20	1724	**.87**	**6.26**	**51.45**	39.38	.75
21—25	3642	.24	4.99	**48.32**	43.98	1.20
26—35	3857	.44	4.97	42.72	**48.63**	1.84
35—40	773	.64	4.52	40.75	**48.25**	**4.52**
Over 40	228	**1.31**	**7.89**	37.28	**47.36**	**3.50**

Table No. 9 shows 7 mothers aged 14 or less, and 282 mothers aged 15 through 17. Patients in this age group have a higher than average incidence of both maternal and infant complications. Likewise the incidence of complications rises somewhat after the maternal age 35, and rises sharply after the maternal age 40. About 75% of the mothers were within the ideal age group for reproduction (21-35.)

8. **Maternal Education:**

Premature births seem to bear an inverse relationship to the mothers' education — the more education, the fewer premature births. There were no significant trends among other birth weight groups (Table No. 10.)

Table No. 10
Maternal Education, and Premature Births

Years of Schooling	% Premature Births	Number of Mothers
Elementary 1—4	7.69	13
Elementary 5—8	6.22	883
High School 1—3	6.70	1776
High School Grad.	5.20	4953
College 1—3	4.24	2239
College Grad.	5.94	437
Graduate School	3.26	92
Graduate Degree	4.85	103

Since knowledge concerning health, hygiene, and the value of prenatal care may vary in different educational levels, the trend in Table No. 10 is not surprising.

9. **Place of Residence:**

Babies born to mothers who live on farms tend to be larger. Babies born to mothers who live in a town that has no medical facilities tend to be medium sized. Babies born to mothers who live in a town with medical facilities tend to be smaller. These differences could be environmental or hereditary in origin! (Table No. 11.)

Table No. 11
Place of Residence, and Birth Weights

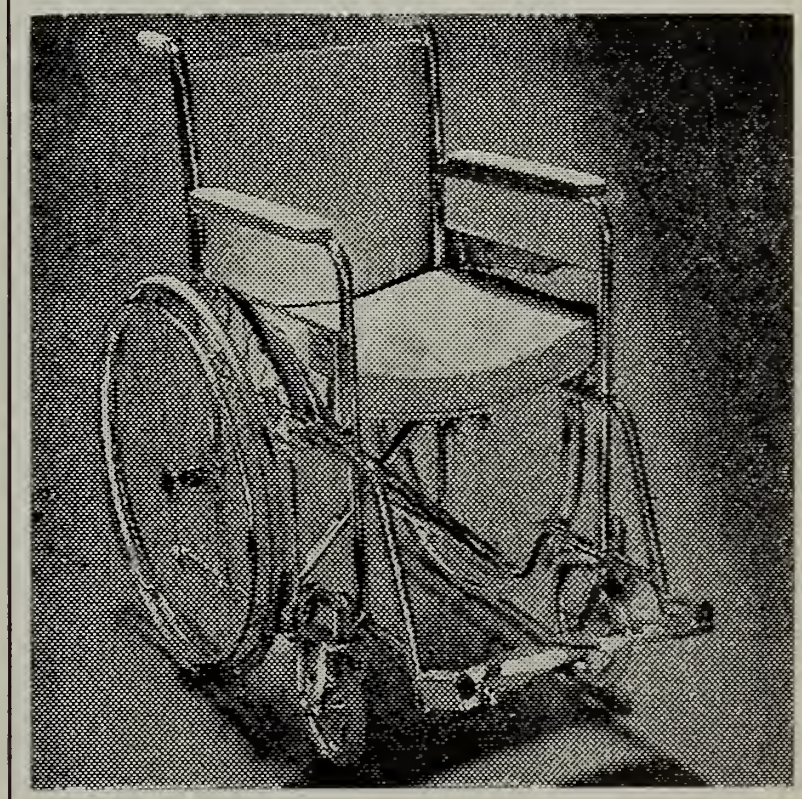
Place of Residence	Weight Groups (recorded in %) Previable	Premature	Small	Large	Gross
In town with medical facilities	.63	**6.11**	**48.42**	**42.18**	1.35
In town without medical facilities	.28	4.63	**46.08**	**45.70**	2.02
On a farm	.27	4.00	40.85	**51.37**	**2.23**

10. **Miscellaneous:**

Birth weights of babies did not vary significantly with:

a) the hospital of delivery
b) the month of delivery
c) the distance a mother lived away from her doctor
d) the occupation of the husband.

Note: This is fourth in a series of reports concerning the South Dakota Prenatal Care Study of 10,606 women. Subsequent reports are anticipated.



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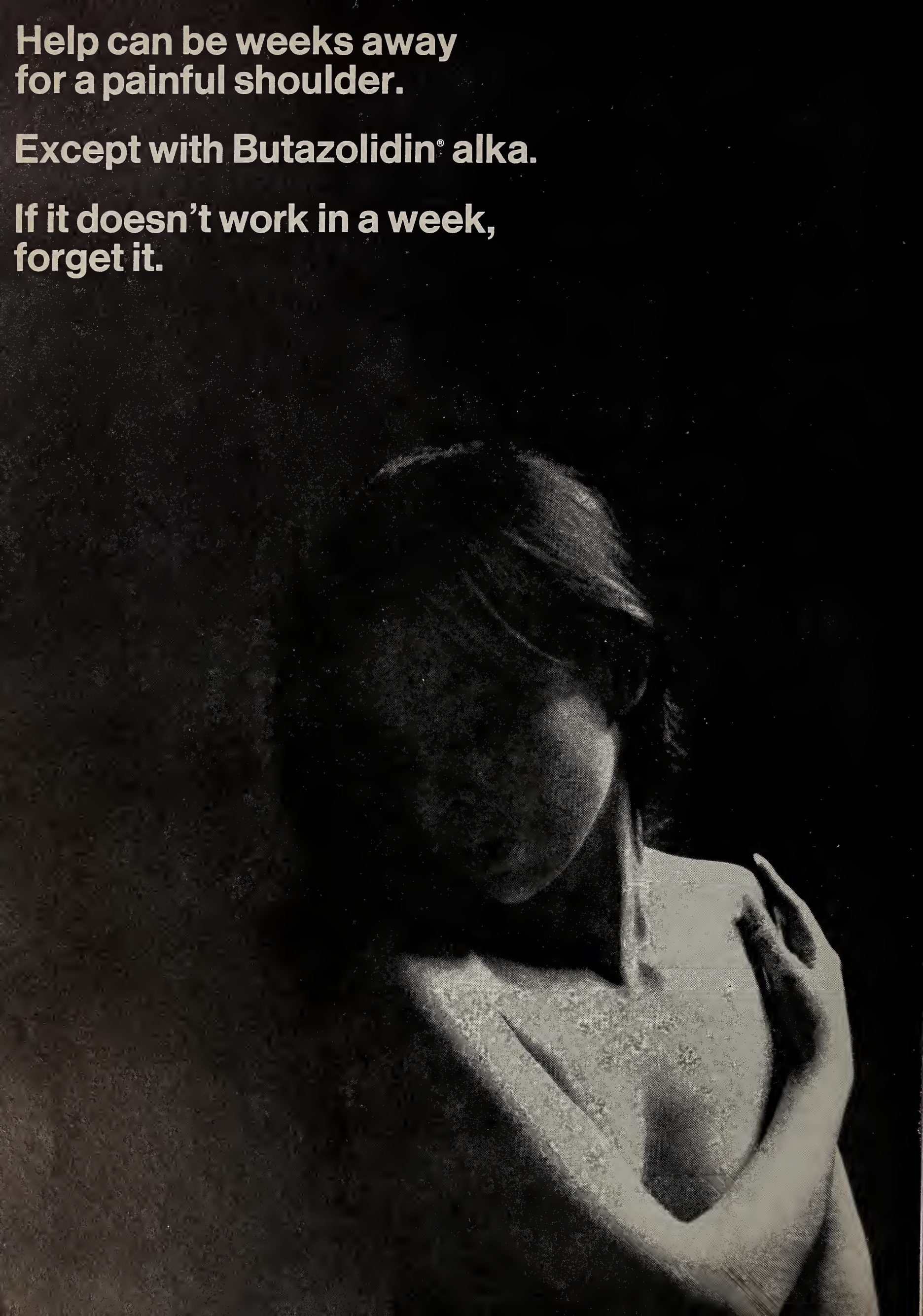

Scientific PAPER

A LARGE DUODENAL MASS

by
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Sioux Falls, S. D.
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Tumors of the small bowel are not uncommon. The majority are benign. Malignant tumors can occasionally occur in this site, but the vast majority of these are metastatic. Given a malignant tumor in the small bowel, the onus is on the clinician and pathologist to rule out beyond question a metastasis from some other primary site.

Tumors of the small bowel large enough to produce symptoms are indeed rare. The most common of these is the adenoma. Twenty-five per cent of these occur in the duodenum, thirty to fifty per cent contain elements of Brunner's glands, and 10.6 per cent are adenomas of Brunner's glands.[2]

These tumors may present with bleeding or with symptoms of varying degrees of obstruction. Many are asymptomatic and discovered as incidental findings at autopsy.

As of December 1965, there were eighty-three cases of Brunner's gland adenomas in the world literature and twenty-eight cases in the English literature.[2]

Case Report

This 61-year old white female reported for a complete physical examination on 8-20-65. She complained of mid-epigastric burning which was present between meals and which was relieved by both food and alkalies. These symptoms had been present for a few months. There was no nausea, vomiting, radiation of pain, or melena.

An upper GI series done on August 4 showed a polypoid tumor mass, probably originating in the duodenal cap. (FIG. 1 & 2). The possibility of a pedunculated gastric polyp prolapsing into the cap was considered, but the 2.5 cm. polyp could not be forced back into the stomach.

FIG. 1. Photo of original X-ray showing polyp in duodenum.

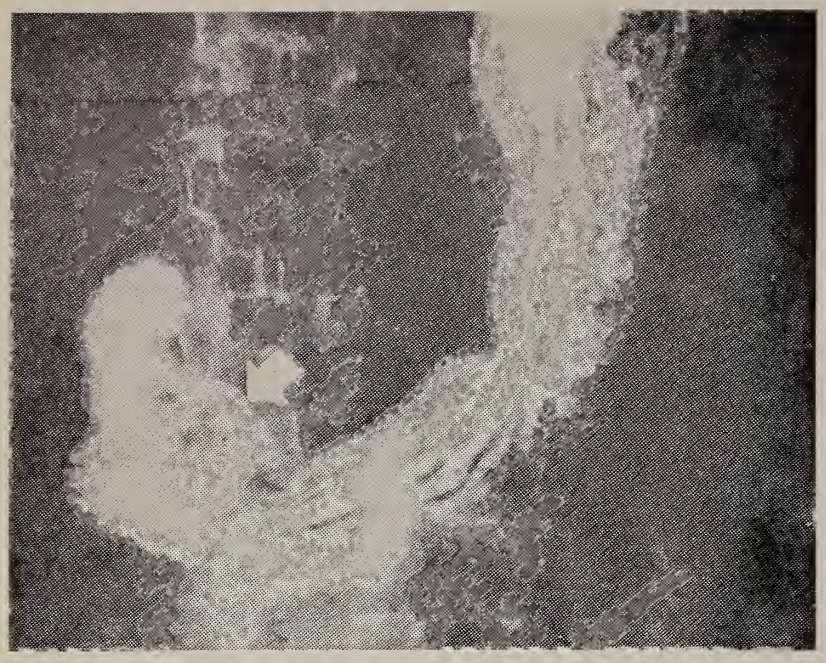

FIG. 2. X-ray view of large polyp in duodenum.

The patient was placed on ulcer management on August 31, and X-rayed again on September 11. The large polyp persisted in the duodenal cap and again could not be forced back into the stomach. The gastric mucosal pattern was normal as were the hemogram, urinalysis, sedimentation rate and fasting blood glucose.

The history and review of systems were negative except for the persistence of epigastric burning occurring about two hours after meals. This was relieved by food and alkalies. The physical examination was negative. It was decided to operate.

Under general anesthesia the first portion of the duodenum was exposed. Just distal to the pylorus a polypoid mass the size of a "plum" could be palpated. (FIG. 3). The mass was exposed by an anterior incision of the duodenum. (FIG. 4). The stalk was approximately 1.5 cm. in diameter and originated in the anterior superior aspect of the first portion of the duodenum.

FIG. 3. Unopened duodenum. Mass between fingers of surgeon.

FIG. 4. Duodenum opened and polyp (arrow) exposed.

The portion of the duodenal wall from which the stalk originated was excised along with the polyp and submitted to the pathologist for surgical consultation. A "quick" section was done and reported as benign.

The formalin-fixed surgical specimen (FIG. 5) submitted for pathological diagnosis consisted of a polyp 2 cm. in diameter on a stalk 2.5 in length and 1 cm. in diameter. The mucosa over the polyp was granular. No ulcerations were noted. At the base of the stalk was a cuff of entirely normal-appearing mucosa. Cut section of the polyp was gray-tan and lobulated.

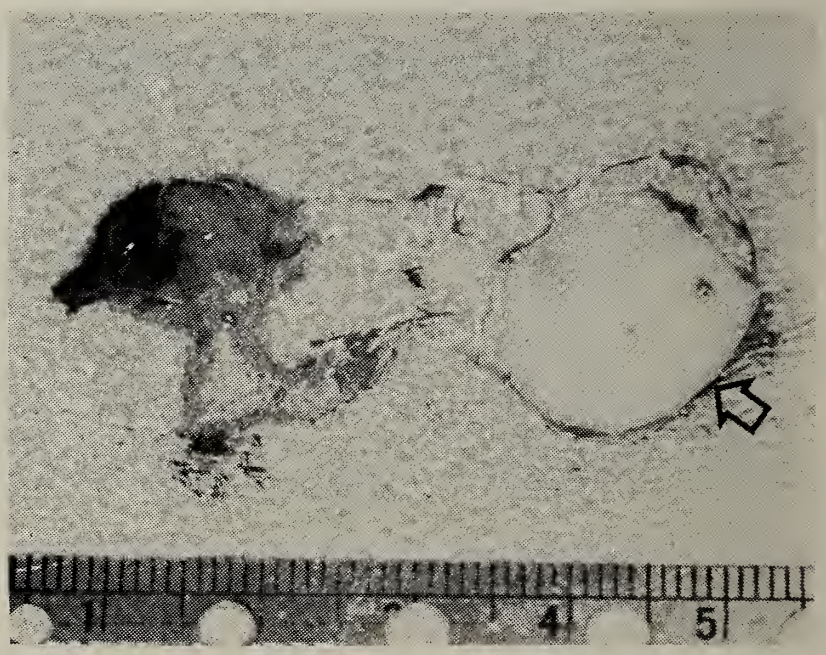

FIG. 5. The bisected gross specimen.

Microscopically the polyp was covered by atrophic glandular mucosa (FIG. 6). The balance was composed of adenomatous nodules of well-differentiated Brunner's glands. The nodules were separated by septa of moderately-dense fibrous stroma (FIG. 7). There was no evidence of malignancy.

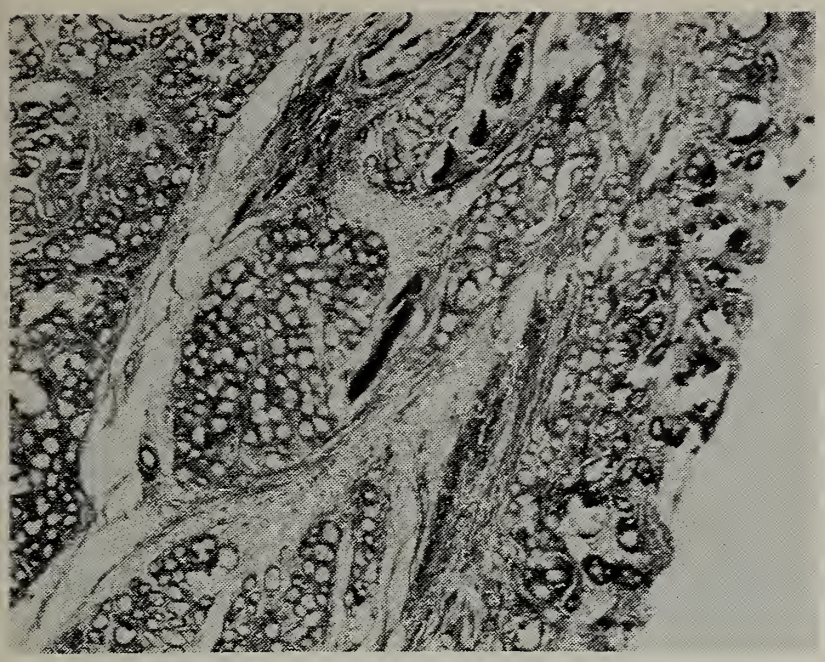

FIG. 6. Atrophic surface mucosa of polyp. H & E 100X.

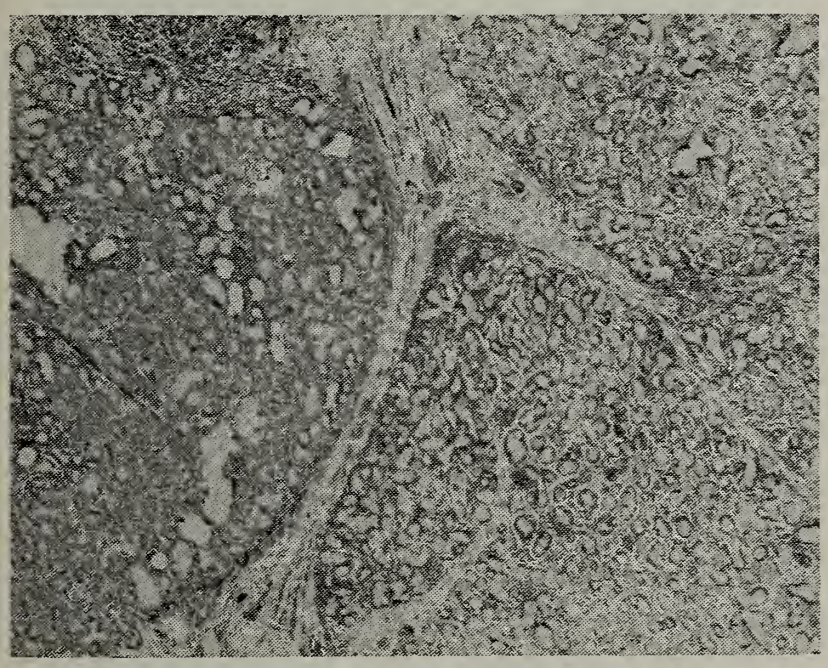

FIG. 7. Center of polyp composed of normal mucous (Brunner's) glands. H & E 35X.

Final pathological diagnosis was benign adenoma (hamartoma) of Brunner's glands.

The patient made an uneventful recovery, and has been symptom free for 24 months.

Discussion (or Summary)

A case of benign adenoma of Brunner's glands in the duodenum is presented. The lesion was polypoid and caused symptoms of mid-epigastric burning relieved by food and alkalies. It was well demonstrated by X-ray.

Adenomas of Brunner's glands constitute 10.6 per cent of benign tumors of the duodenum. In 1965 there were eighty-three cases of this lesion in the world's literature.[2] They are of three types: (1) diffuse nodular hyperplasia, (2) circumscribed nodular hyperplasia, and (3) adenomatous hyperplasia forming a single mass.[4] Our case is an example of the third type. It measured 2 cm. in diameter while most such lesions are reported to be less than 1.0 cm. in diameter.

The polyp was removed surgically and the patient is completely well and asymptomatic 24 months later.

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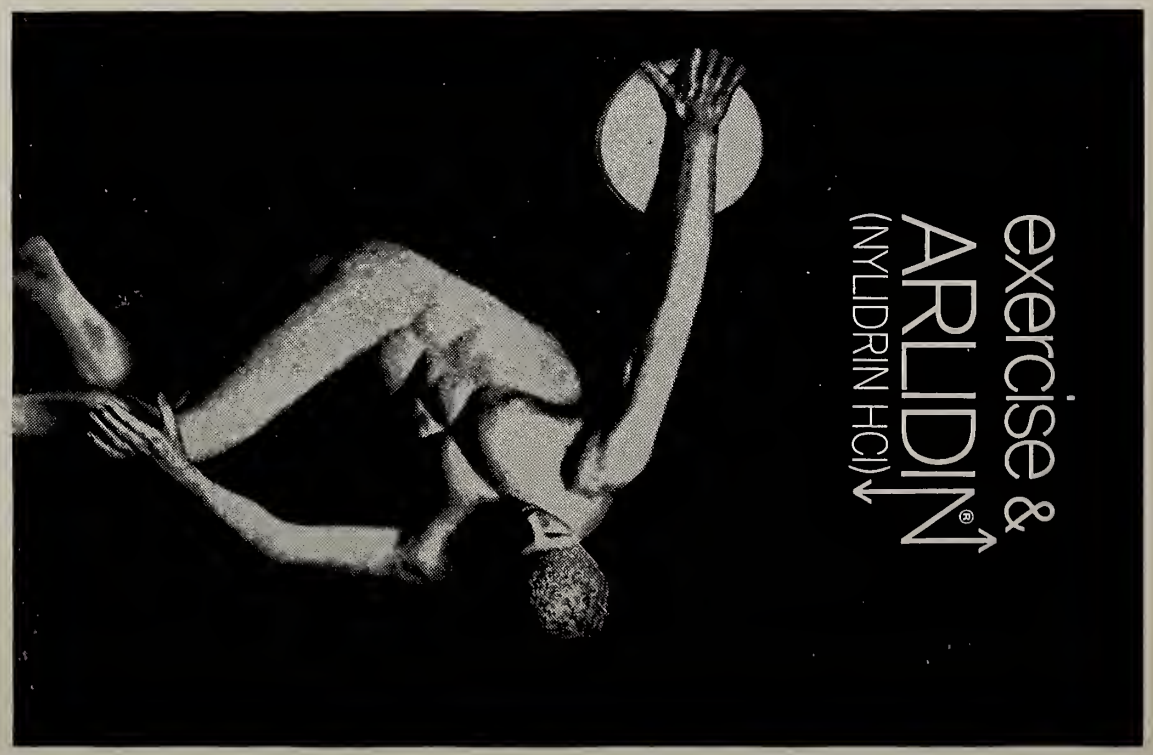

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CLINICOPATHOLOGICAL CONFERENCE - SIOUX VALLEY HOSPITAL

From the Intern and Resident Teaching Conferences of the Sioux Valley Hospital, Sioux Falls

John F. Barlow, M.D.*
Pathologist - Editor

Milton G. Mutch, Jr., M.D.**
Gynecologist - Discusser

SIOUX VALLEY HOSPITAL CASE NO. 424374

This 46-year old Caucasian female entered with a chief complaint of prolonged heavy menstrual periods.

The menarche was at age 14. The patient had had regular periods up to two years prior to admission when she noted menstrual bleeding lasting one to two months with one to two month intervals free of bleeding. She required 10-12 pads each day with clots the size of 50-cent pieces. There was occasional crampy abdominal pain. There was no intermenstrual bleeding or vaginal discharge. The patient had three full term pregnancies with three living children ages 14, 16, and 18. The second child was a breech presentation but all of the postpartum courses were normal.

Past history and review of systems revealed constipation requiring an occasional laxative and repair of a rectal fistula in 1957.

Physical examination showed a well-developed, well-nourished, white female with pulse 80, temperature 98.6°, BP 140/90, weight 119¼ lbs., height 5'2¼". The general physical examination was negative. Pelvic examination was described as follows: Skene's ducts, Bartholin's glands are negative. The vaginal vault is firm and parous. The cervix is well epithelialized and somewhat patulous. The canal is regular, patent about 4½" in depth. The uterus is anterior in position, enlarged chiefly in the fundal area and possibly slightly irregular. A cystic mass is present in the right adnexal area against the uterus about 5 cm. in diameter.

The hgb. was 11.1 grams%, red cell count 4.10 million/mm^3, hct. 35%, mean corpuscular hemoglobin 27 micromicrograms, mean corpuscular volume 86 cubic micra and mean corpuscular hemoglobin concentration 32%. White count was 9,500 with 63% polys, 1% bands, 5% eosinophils, 28% lymphocytes, 3% monocytes. The red cells were normochromic. A urine specimen was straw-colored and cloudy with specific gravity 1.018. Tests for glucose, ketone, hemoglobin, and protein were negative. There were 20-30 WBC/HPF, an occasional cast, and 3-6 RBC/HPF. The platelets were adequate on the smear. An operation was performed.

Dr. Milton Mutch: We have a 46-year old lady with heavy periods for long periods of time with apparent complete cessation in between. Physical examination revealed a slightly enlarged irregular uterus and a cystic adnexal mass. The laboratory results were non-contributory. The differential diagnosis in this case is quite long, and I have no way of determining for sure which specific disease this patient has. I can only give some likely possibilities. In a woman of this age group with skipping of periods and then flowing for long periods of time, I think the most likely possibility would be endometrial hyperplasia with a follicular cyst of the ovary. The clinician can sometimes palpate the follicular cyst on pelvic examination and sometimes he cannot.

A second possibility is that of uterine leiomyomas associated with endometrial hyperplasia. This is the age group in which fibroids occur. Fibroids may be subserosal, intramural, or submucous. You do not necessarily have to have an enlarged uterus for this amount of flow. Hyperplasia of the endometrium is a condition which you see at the extremes of reproductive life due to unopposed estrogen activity. Often there are prolonged periods of very excessive flow.

A third possibility would be carcinoma of the endometrium. Sutherland published a study of a thousand cases. 50% of carcinomas of the

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endometrium at some time in the past had a history of menorrhagia or metrorrhagia. The youngest patient reported in this series was 36. The pattern of bleeding exhibited by this patient is a little unusual for carcinoma of endometrium. Most of the patients with carcinoma will not cease bleeding for two month intervals.

A fourth possibility would be chronic salpingitis with chronic endometritis. Usually in such a case there would be bilateral adnexal masses. The only type of chronic salpingitis that would produce a unilateral adnexal mass would probably be tuberculosis. This is unlikely in this patient. It is also uncommon for this area of the country.

Endometrial polyps as a cause of the patient's symptoms is a remote possibility as a fifth choice. It doesn't usually give this type of bleeding pattern. Ectopic pregnancy is pretty well ruled-out because such patients do not go on bleeding for two years. Recently, I have had a rather interesting case of ectopic pregnancy. The patient came in about two weeks ago and passed an empty sac representing a blighted ovum. She came back with pain and a mass on the right side of the abdomen. I performed a laparotomy and she had an ectopic pregnancy on the right side. Previously, she had had an ectopic pregnancy on the left for which a left salpingectomy was performed two years ago.

A seventh possibility is a functioning ovarian tumor such as a granulosa or theca cell tumor. These are usually solid tumors and do not fit with the physical findings of a cystic mass in the adnexa. They are, however, associated with endometrial hyperplasia and endometrial carcinoma in a significant number of cases. In association with endometrial hyperplasia, the type of vaginal bleeding described in the protocol may result.

An eighth possibility which is quite unlikely is a dermoid cyst with functioning ovarian thyroid tissue. A ninth possibility is endometriosis. I think the most likely diagnosis in this case is endometrial hyperplasia associated with fibroids or, and/or follicular cyst. I would have to guess that the operation performed was a dilatation and curettage.

Dr. John F. Barlow: Dr. Stahmann, as the physician in this case, would you care to comment on your own pre-operative diagnosis?

Dr. F. S. Stahmann*: I was thinking of uterine fibroids and an ovarian cyst probably secondary to endometriosis. I might add that the mass was quite tender, although she had little pain. I think one could suspect a functioning ovarian tumor in this case from the bleeding pattern, but it would only be a suspicion. I should also mention that this ovarian cyst was fixed and did not change in size. I think this would be unlikely for a corpus luteum or follicular cyst.

Dr. Richard Friess:** Don't you think this hemoglobin is rather high for a woman bleeding this much over a period of two years?

Dr. Milton Mutch: Yes, unless possibly the patient was on iron therapy.

Dr. F. S. Stahmann: She was on iron therapy. On the third hospital day a laparotomy was performed. The right ovary was enlarged, edematous and about 5 cm. in diameter. It had spontaneously ruptured and what appeared to be a corpus luteum was present on the outer aspect. The remainder of the ovary was edematous and somewhat mushy and was adherent to a loop of small bowel and the broad ligament. The uterus was anterior in position, of generous size, and contained a few small myomas. The myometrium was slightly thickened. The left tube and ovary were normal. A right salpingo-oophorectomy and total abdominal hysterectomy was performed.

DR. MUTCH'S DIAGNOSIS

ENDOMETRIAL HYPERPLASIA
SECONDARY TO FOLLICULAR CYST OF OVARY
LEIOMYOMAS OF THE UTERUS

PATHOLOGICAL DISCUSSION

Dr. John F. Barlow: As Dr. Mutch presumed, this case was selected for a CPC primarily because of the interesting problem of the differential diagnosis. The findings were very interesting and difficult to predict. In the right ovary was a 6 x 3 x 5 cm. compressible but solid tumor which had ruptured. It had a tan, homogenous cut surface with bright yellow necrotic areas at the periphery. The compressible nature of the tumor undoubtedly accounted for the cystic sensation on pelvic examination and the bright yellow areas of necrosis simulated a corpus luteum. On microscopic section the tumor proved to be a granulosa cell tumor. Figure I shows cystic spaces. Solid areas of tumor and Call-Exner bodies are illustrated in subsequent photomicrographs. (Figs. II-III). A marked endometrial hyperplasia of cystic type was present.

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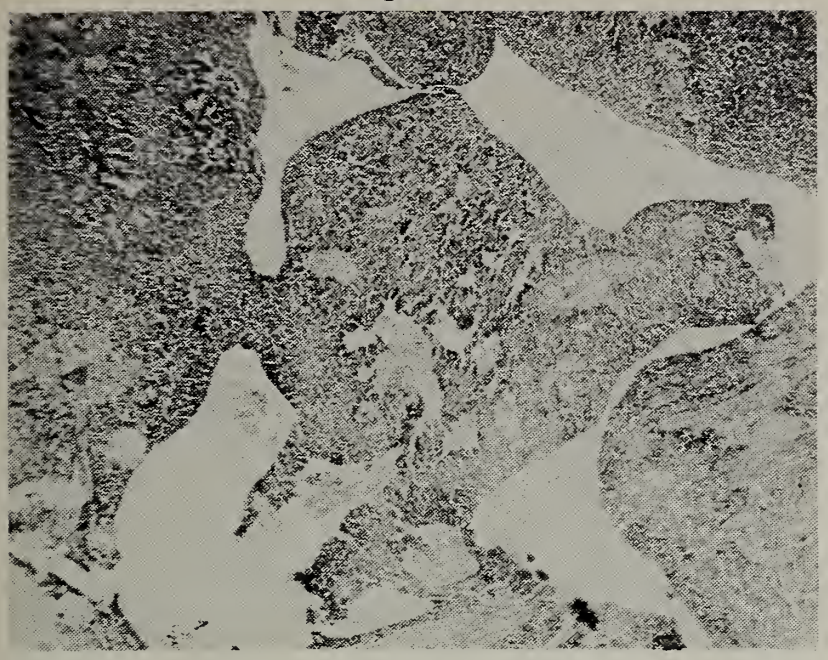
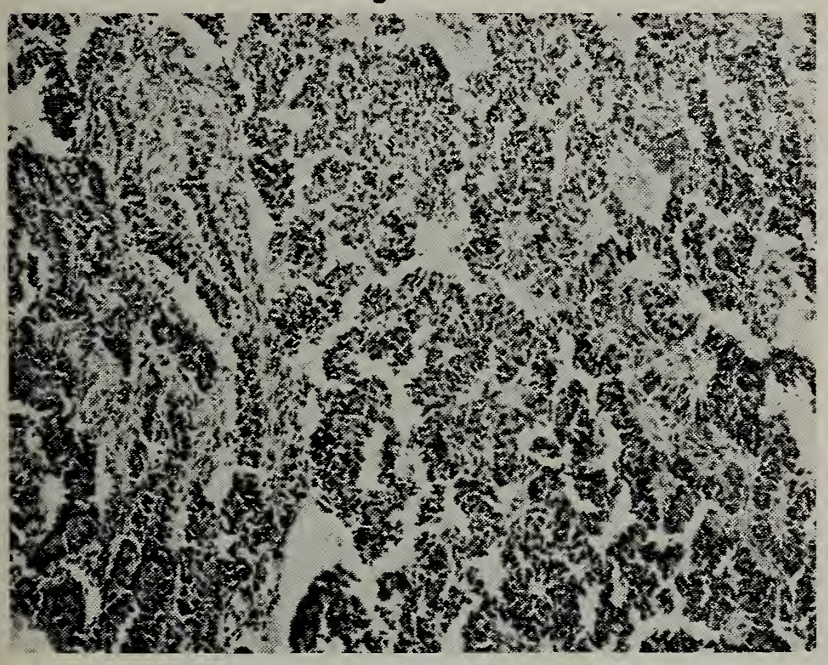
Figure I



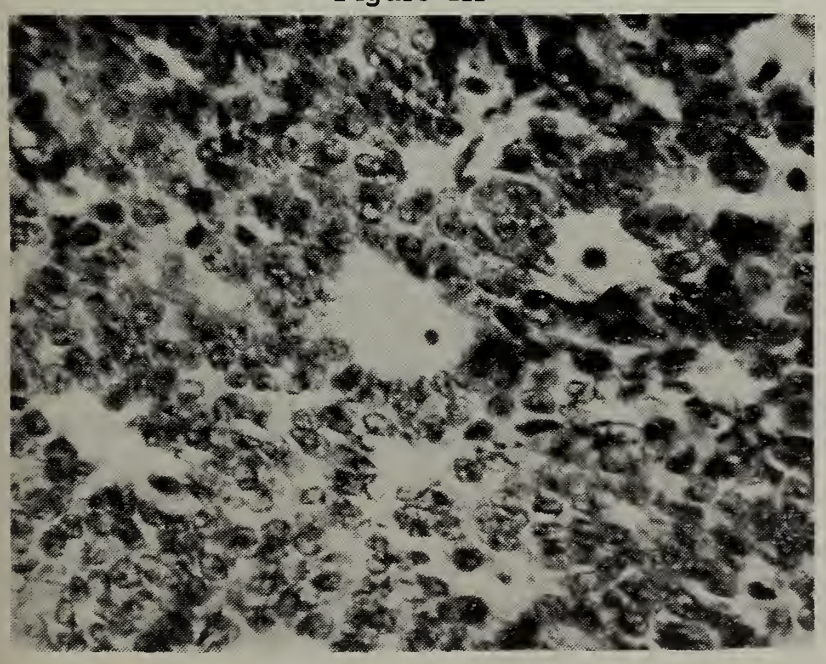
There is a cystic or macrofollicular pattern in this area of the granulosa cell tumor.

Figure II



This is another pattern from a more solid area of the tumor. There are woven cords of granulosa cells.

Figure III



This high power view shows Call-Exner bodies characteristic of granulosa cell tumor. There is nuclear debris in the center of each.

Photographs by W. Halbritter, M.T. (ASCP)

This is presumably due to estrogen stimulation by the tumor.

Granulosa-theca cell tumors are usually estrogen secreting tumors and are to be distinguished from androgen secreting tumors, the Sertoli-Leydig cell tumors or arrhenoblastomas. The granulosa-theca tumors are more common than the Sertoli-Leydig cell group and usually are mixtures of granulosa and theca cells. One type of cell often predominates. Predominantly theca cell tumors are difficult to differentiate from fibromas. Predominantly granulosa cell tumors can take many forms. They are most often solid and unilateral. They are rarely cystic. Occasionally there is necrosis with massive secondary hemorrhage. Microscopically, the tumor may show macrofollicular or microfollicular patterns as well as cords of cells and Call-Exner bodies. The tumor may show a sarcomatous pattern and as such may be graded as to malignancy from I to IV. The more poorly differentiated tumors do much worse than the well-differentiated tumors. However, metastases may occur many years after excision and all granulosa cell tumors should be considered as at least low grade malignancies. (Ref. 1, 2, 4)

An interesting facet of these tumors is that they are associated with a high incidence of adenocarcinoma of the endometrium. For this reason it has been postulated that the estrogen produced hyperplasia of the endometrium proceeds to carcinoma. However, women on estrogen therapy for osteoporosis and menopausal symptoms do not appear to show an increase in incidence of adenocarcinoma of the endometrium. (Ref. 3)

FINAL DIAGNOSES

1. GRANULOSA CELL TUMOR OF OVARY
2. PROLIFERATIVE ENDOMETRIUM WITH CYSTIC HYPERPLASIA

Dr. Dorence Ensberg*: If these tumors are to be considered malignant, shouldn't this patient have some post-operative radiation?

Dr. Stahmann: I have seen a few patients of this type who have responded to radiation. Dr. Barlow, was this tumor histologically highly malignant?

Dr. Barlow: No, we feel this was a relatively low grade tumor.

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Dr. Robert Nelson**: Yes, but of course this tumor had ruptured and was also adherent in the pelvis. I think that should give it a worse prognosis than most granulosa cell tumors.

Dr. Stahmann: I have not recommended radiation therapy for this patient as yet because I thought the pelvis was pretty clean after I had finished. One point is that many gynecologists are using cytotoxic agents such as Chlorambucil for ovarian malignancies. I think I would wait for a recurrence in this case before I did any further therapy.

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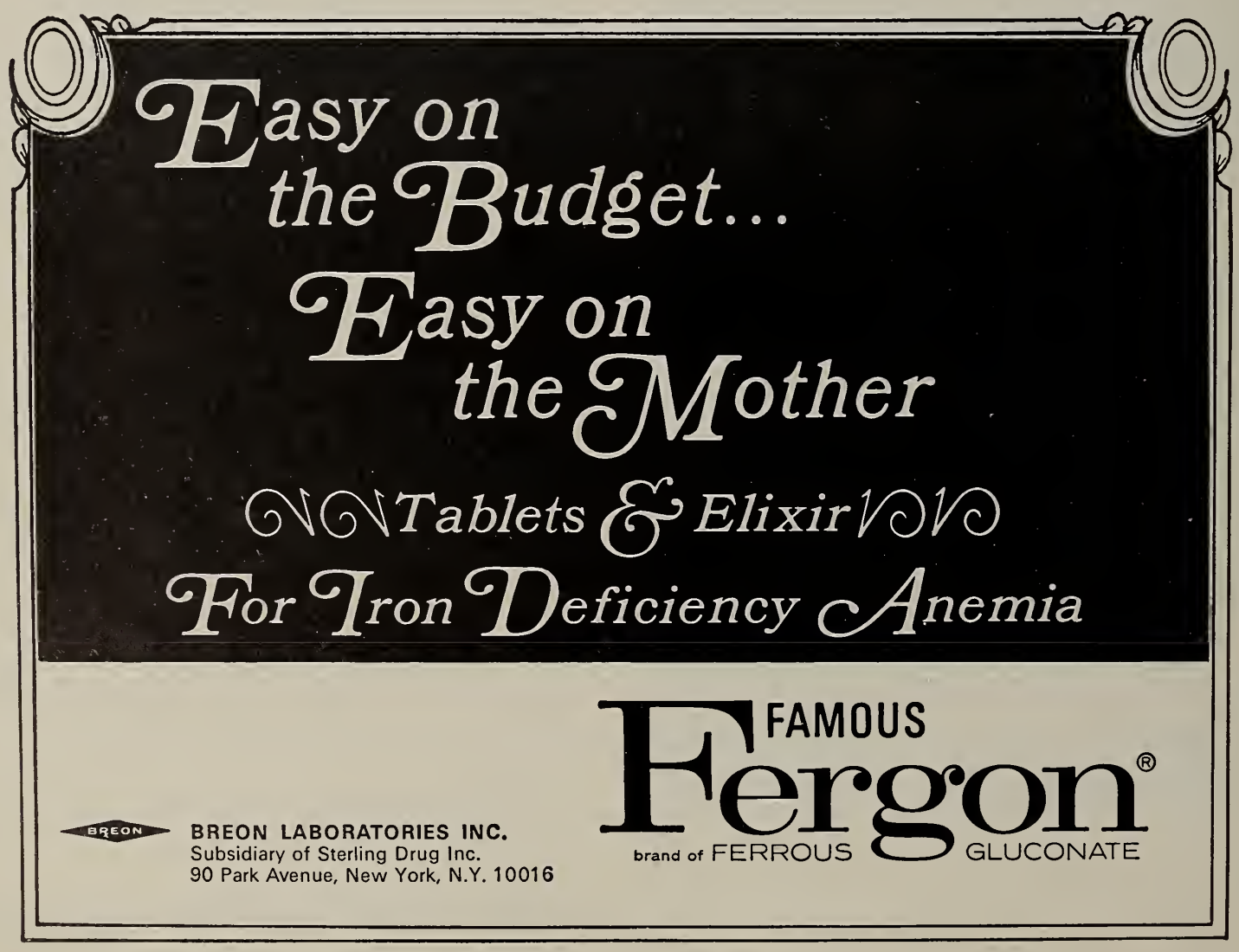
POSTGRADUATE COURSE IN LARYNGOLOGY AND BRONCHOESOPHAGOLOGY

March 25 through April 6, 1968

The Department of Otolaryngology of the Illinois Eye and Ear Infirmary and the College of Medicine of the University of Illinois at the Medical Center, will conduct a postgraduate course in Laryngology and Bronchoesophagology from March 25 through April 6, 1968. This course is limited to fifteen physicians and will be under the direction of Paul H. Holinger, M.D. It will be held largely at the new Illinois Eye and Ear Infirmary, 1855 West Taylor Street, Chicago, and will include visits to a number of Chicago hospitals. Instruction will be provided by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, College of Medicine, University of Illinois at the Medical Center, Postoffice Box 6998, Chicago, Illinois 60680.



RADIOLOGIC CASE PRESENTATION No. I

Martin Frank Petereit, M.D.*

Author's note: Starting with this issue, this will be a regular feature of this journal. Many publications have a "case of the month" type of presentation which usually offers interesting reading material as well as useful information. These objectives have inspired a similar type of series for this journal. The cases shown will be "proven" but not necessarily by microscopic study. Some of these cases will be reasonably common and some will be quite uncommon. However, hopefully, all will have a point or points to make. A differential diagnosis and/or discussion will be included in each presentation.

The field of radiology has made explosive progress in spite of its relative youth. With the passage of time a great many signs have been described to significantly increase the value of this diagnostic modality. Some of these signs may be very subtle and yet may have very serious implications. Occasionally the author may stress certain types of views or examinations, not only as an instructive aid, but also to promote an increase in understanding between clinicians and radiologists in general.

A suggested approach for this type of "game" is: (1) view the entire film, (2) attempt to discover the key findings, (3) render a decision as to the diagnosis and (4) **then** read the description. A stimulating case has often been compared to a good detective story!

Case Presentation

Figure 1 shows a single view of each lower extremity of an eight month male infant and figure 2 shows similar views of a nine month old female infant. The findings in both of these cases are almost exactly the same. To begin with, there is a diffuse osteoporosis involving all of the bones visualized which is possibly best appreciated in the distal femoral and proximal tibial epiphyses. What does the term "osteoporosis" actually mean?

Osteoporosis

This term implies a deficiency of organic bone matrix and usually is the result of a decrease in the activity of the osteoblasts. This decrease in osteoblastic activity may result from a protein deficiency. Osteoid will not be normally produced if a protein deficient state exists. The matrix that is present is normally calcified. There is an overall decrease in bone calcium, however, this is only secondary to the decrease in matrix formation. This situation has often been referred to as "uniform atrophy of bone."

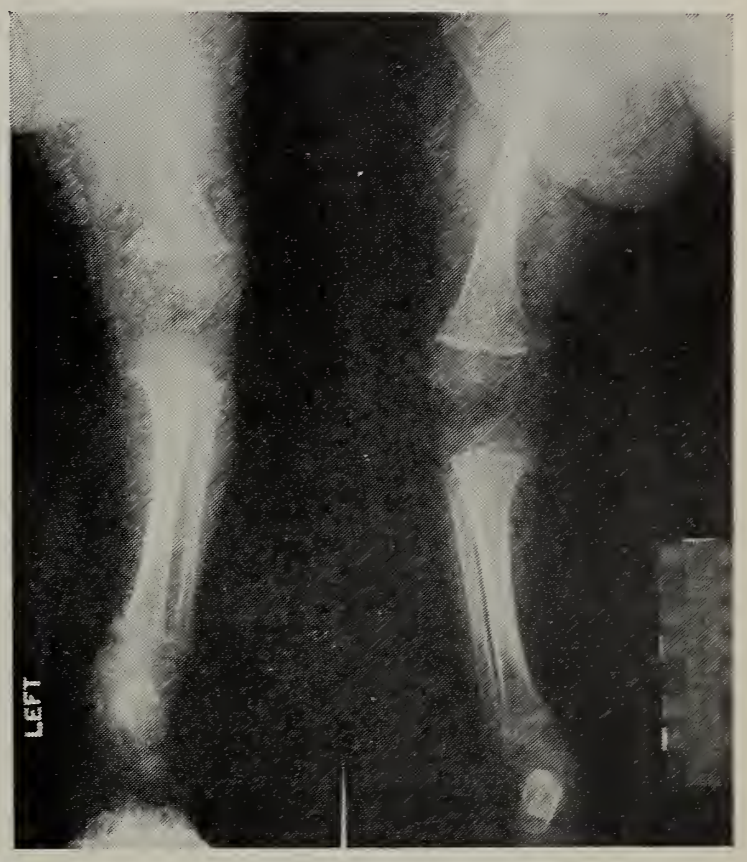


Figure 1. Both lower extremities of an eight month old male infant.

Figure 2. Both lower extremities of a nine month old female infant.

* Medical X-ray Center, Sioux Falls, South Dakota.

The bones involved are well defined, however, they are brittle and pathologic fractures may occur. The term "osteomalacia" signifies a normal production of matrix but, for one of many reasons, there is a decrease in available calcium for deposition in osteoid. These bones are poorly defined (the cortical margins are indistinct), are soft and often bend. The often used term "demineralization" implies osteomalacia rather than osteoporosis. Multiple etiologies of osteoporosis exist and may be listed as follows:

A. Endocrine
   1. Senile — This is the most common type and it is apparently related to a decrease in gonadal hormones. This is the usual explanation for the very common "hip fracture" in the elderly patient.
   2. Postmenopausal — This also is related to gonadal hormone deficiency which results in decreased activity of the osteoblasts.
   3. Steroid administration — These drugs apparently interfere with protein synthesis. Cushing's syndrome and basophilic tumors of the pituitary gland may be mentioned here.
   4. Hyperthyroidism — With this disease there is an increase in protein metabolism which eventually results in protein deficiency.

B. Congenital — The usual example given here is osteogenesis imperfecta.

C. Vitamin deficiency — The classic example of this is scurvy. It is well known that this disease results from a deficiency of vitamin C. This vitamin is needed for the production of collagen matrix.

D. Trophic—This category includes fractures with disuse atrophy, neuromuscular diseases, such as polio etc.

E. Miscellaneous
   1. Abscess adjacent to bone — In this situation the associated hypervascularity results in bone resorption.
   2. Rheumatoid arthritis—The osteoporosis seen with this condition is the result of increased vascularity and disuse.

A Few Facts Concerning Bone Growth

Before considering the other findings in these two cases, it may be helpful to briefly review the physiology of bone growth with reference to the epiphyseal plate. Figure 3 is a diagram of a segment of growing long bone. The size of the epiphyseal plate (A through D) and of the articular cartilage (E) have been exaggerated for the purpose of illustration. The growth plate is composed of four zones (refer to figure 3):

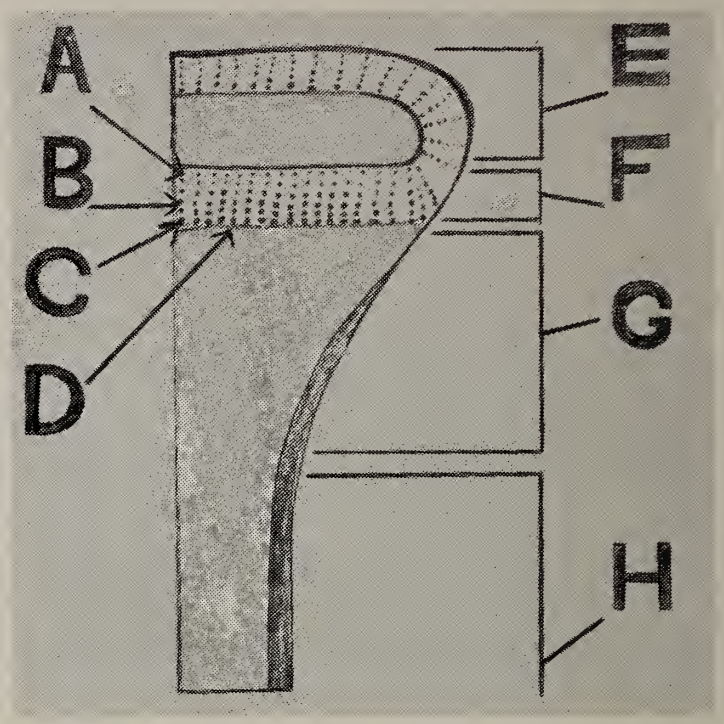


Figure 3. Diagram of a segment of growing long bone.

A. Resting cartilage — This is a layer of undifferentiated chondrocytes; it is adjacent to the bony plate of the epiphysis.

B. Proliferating cartilage — This is the active growing zone.

C. Vacuolization — The chondrocyte is now in a post-mitotic stage and dies. Collagenous substance holds these cells in columns.

D. Calcification — This is a very thin zone which bridges and gives rigidity to the junction between hyaline cartilage and spongy bone. Subsequent to cartilage cell death, alkaline phosphatase is elaborated. Then the longitudinal bars (between the cells) become calcified which is called "lattice."[1] Capillaries invade this area along with osteoclasts (giant cells derived from stromal cells of marrow) and erode about ninety per cent of the lattice.

The metaphyseal segment (G) is composed of primary and secondary spongiosa; it is the area where cartilage is transformed into bone. This transformation is a complex process resulting from the interaction of osteoclasts and osteoblasts. In figure 3, (E) represents the epiphysis with its covering articular cartilage, (F) the entire growth plate and (H) the diaphysis.

The normal end of a growing long bone contains a white line at the junction of the meta-

physis and the growth plate. In scurvy, lattice is formed but osteoid is not deposited around it. Calcium, which is present in normal quantity, will continue to "pile up" in this area. Therefore, this white line will become more dense. With rickets, where there is a deficiency of calcium, no lattice is formed; the first sign in this disease process is the disappearance of this normal white line.

Continuation of the Case Presentation

In addition to the osteoporotic changes, the cases in figures 1 and 2 show (see figure 4 also, which is an enlarged drawing of the distal left femur from figure 1):

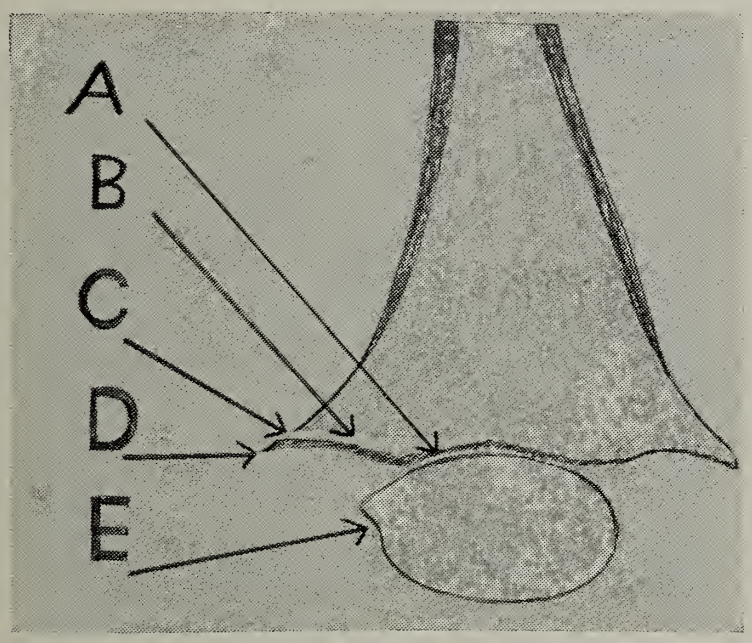


Figure 4. An enlarged drawing of the distal left femur from figure 1.

A. A dense white line at the junction of the metaphysis and the growth plate — This is known as the "white line of scurvy."

B. On the diaphyseal side of the white line the trabeculae are very sparse. This area of poorly formed bone appears as a transverse lucent band and is called the "scurvy zone." This is suggestive of scurvy, however, it may be observed with other diseases such as leukemia (in the pediatric age group).

C. The "corner or angle sign" — This is a defect in spongiosa and cortex immediately beneath the epiphyseal plate. These are precursors of subepiphyseal separation. When fractures occur, they do so through these areas.

D. The "spurs" — These are lateral projections of the epiphyseal plate beyond the usual limits of the shaft. These may represent elevated periosteum resulting from hemorrhage or from fractures through the scurvy zone. This is one of the most diagnostic signs of scurvy.

E. The "ringed epiphysis" — This is a dense white line around the epiphysis which is formed in the same manner as the white line of scurvy is formed.

Any of these signs may suggest scurvy, however, the combination of diffuse bone atrophy and multiple spurs occurs only in this disease.[2] Both of the examples presented are quite typical of that diagnosis.

Discussion

Infantile scurvy results from vitamin C (ascorbic acid) deficiency. It is found almost exclusively in babies who are fed formulas containing pasteurized or boiled milk. The heating process destroys vitamin C. In nearly all cases, the disease has remained asymptomatic for an interval of from four to six months. There are no proven cases of symptomatic or roentgenographic scurvy in infants less than three months of age. Whenever this diagnosis has been entertained during the first few weeks of life, skeletal syphilis has often been the problem.[2] At the present time, scurvy refers to the infantile type unless it is otherwise stated. It is rarely seen after age two years. However, there have been reports of a latent form in adults related to casual dietary intake in the rushed business population. Adult symptoms are mostly related to hemorrhages in soft tissues and to a lesser extent in bone.[3]

These roentgenographic signs are most marked at the sites of most rapid growth and most active endochondral bone formation. These areas include the sternal ends of ribs, the proximal humeri, the distal femurs, both ends of the tibia and fibula and the distal radius and ulna. Subperiosteal hemorrhages may also occur and may affect any of the long bones, especially the humeri, femurs and tibias. During the healing phase of scurvy massive shells of subperiosteal bone will be seen surrounding the involved shafts.[2]

Although scurvy is not a common disease in this country, it is still occasionally seen. When it is seen, the roentgenographic picture may be quite interesting as well as diagnostic.

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A Modern Community Hospital

E. H. Heinrichs, M.D.

Modern technology, sociological changes, Medicare and Medicaid (Titles 18 & 19), and RMP (Regional Medical Program for Heart, Cancer and Stroke) have brought and are still bringing changes into the health care of today. These changes were felt for some time in South Dakota and required many adjustments.

The most important task for South Dakota is now to produce the optimal medical service with high quality patient care as the main objective, even though one has to take into account in our state many obstacles. The biggest of them are:

An uneven distribution of a relatively small population over a large geographical area.

An economy which is based largely on one industry.

An average income below the national average.

The absence of a four year medical school and its stimulation to health care.

A serious shortage of medical manpower, mainly due to the lack of educational facilities for medical and ancillary personnel.

In order to show how a community hospital can cope with such problems despite these shortcomings, the Memorial Hospital of Watertown, South Dakota should be described to serve in many ways as an example for other hospitals to adjust to today's demands.

HISTORY:

The present Memorial Hospital in Watertown, South Dakota was founded in 1907 in Bristol, South Dakota as the Lutheran Hospital and started a building program as a community hospital in Watertown, South Dakota soon afterwards. Now this hospital, together with St. Ann's Hospital in Watertown, South Dakota, serves the medical needs of approximately 60,000 people.

During 1968 Memorial Hospital of Watertown, South Dakota will offer five different phases of care to its patients:

1. Intensive care
2. Regular care
3. Extended care
4. Ambulatory care
5. Rehabilitative care.

From the beginning until 1958 only regular care was offered, not divided by specialty services. For example, the hospital had one ward each for males and females, rather than for surgical and medical patients.

From 1958-1961 a building program was carried out mainly geared to improve the intensive care units, namely three modern operating rooms with post-operative recovery room, two labor rooms and two delivery rooms, modern nurseries, and a medical intensive care unit with isolation and detention facilities. To this in 1968, a four bed cardiac intensive care unit with modern monitoring equipment and a pulmonary intensive care unit will be added.

During 1966-1967 an Extended Care Facility with 51 beds was built. Also, a Rehabilitation Center was added, which will begin operation after January 1st, 1968 and provide nine specific programs outside of general rehabilitative care. As such, both will be the first units of their kind attached to a general hospital in South Dakota.

The hospital has been accredited continuously by the Joint Commission on Accreditation (and its predecessor) since 1923, is fully departmentalized and offers diagnostic and treatment facilities for all medical problems except neurosurgery and cardiac surgery.

ORGANIZATION:

A. Medical Staff (November 15, 1967)

The operation of such a diversified program requires a high degree of co-operation by the Medical Staff. As of present, the hospital has 27 physicians as staff members. Besides general

practitioners, the following medical specialties are represented by resident board specialists and board eligible specialists:

1. Surgery (general, thoracic and vascular)
2. Internal Medicine
3. Obstetrics and Gynecology
4. Pediatrics
5. Radiology (diagnostic, therapeutic and isotopes)
6. Pathology
7. Psychiatry and Neurology
8. Ophthalmology.

All physicians are on one or more hospital committees in an advisory and regulatory function, directed by an elected Chief of Staff and Executive Committee. Presently, there are eleven committees functioning.

B. Ancillary Services (November 15, 1967)

Outside of the medical specialty services, the hospital offers many para-medical services under its roof:

1. A complete Mental Health Center (including psychiatrist, clinical psychologist and psychiatric social worker). The center is a regional center and is administratively independent.
2. A complete pulmonary service operated by the School of Inhalation Therapy of Memorial Hospital, Watertown, South Dakota.
3. Physiotherapy, provided by a registered physiotherapist with an MA degree in the Rehabilitation Center.
4. Social services, provided by a social worker (ACSW) with a BS degree, the first one in a private hospital in South Dakota.
5. A complete clinical laboratory service with two registered medical technologists (ASCP) and one certified laboratory assistant (CLA).
6. Diagnostic and therapeutic radiological services, including diagnostic and therapeutic isotopes, staffed with one registered x-ray technician.
7. A dietary department staffed with two dietitians (ADA) and appropriate personnel, which provides consultative services to area health care facilities.
8. A record library department, staffed with one registered librarian and one registered assistant librarian and additional personnel.

C. Educational Activities (November 15, 1967)

Based on the fact that ancillary medical personnel is difficult to obtain in South Dakota, and that in the future our area facilities will employ more of these so trained persons, the Medical Staff and the Administration started their educational activities several years ago, continuing actually a long-time interest, which dates back to 1915 when the hospital had a very successful school for RN's.

The hospital operates now:

1. A School of Inhalation Therapy, approved by the Council on Medical Education of the AMA, founded in 1960.
2. A School of Radiologic Technology, approved by the Council on Medical Education of the AMA, founded in 1965.
3. A School for Certified Laboratory Assistants, approved by the American Society of Clinical Pathologists, founded in 1965.
4. In July of 1968 a co-operative program with the Lake Region Area Vocational-Technical School in Watertown, South Dakota for an LPN training will start in which Memorial Hospital will provide clinical training facilities, teachers and other assistance.
5. The Lake Region Area Vocational Technical School in Watertown, South Dakota also operates a program for dental assistants for which in the past, Memorial Hospital had supplied technical assistance and will do so in the future on a limited basis.

INTENSIVE CARE FACILITIES:

With the advent of complicated procedures and sophisticated technical aids, it appears more and more necessary to administer medical help through physicians with special training and experience as well as specially trained nursing and ancillary personnel. Thus, intensive care units were created inside of their respective departments. These will be headed by a physician who possesses the greatest skill and experience to handle the units and he will, in contrast to the elected Chief of Service, serve on a permanent basis. The operation of these units will frequently be analyzed by their own staff and reports will be made to the Medical Staff as a whole. Admission to these units is effected through the private physician who then has the opportunity of frequent consultations and guidance and the benefit of well established procedures and experienced nursing staff. Within six months there will be the following intensive care units in Memorial Hospital:

1. A Cardiac Care Unit. This unit consists of 4-6 completely monitored beds and a well-trained staff.
2. A Surgical and Trauma Intensive Care Unit, with three operating rooms, including monitoring equipment and post-operative care unit, staffed with three registered nurse anesthetists, nursing and inhalation personnel.
3. A Medical Intensive Care Unit, with isolation and detention facilities.
4. A Pulmonary Intensive Care Unit equipped with all gases, suctioning, air conditioning and mechanical aids to respiration and staffed by well trained nursing personnel and inhalation therapists. This unit will have a surgical and a medical co-ordinator.
5. Labor and Delivery Rooms.
6. A Premature Nursery. This unit does not as yet have separate quarters from the general nursery.

REGULAR CARE FACILITIES:

The regular care facilities of Memorial Hospital consist of 94 beds and 14 bassinets. The rooms have no more than two beds as required by the regulations of Title 18 (Medicare), and are in part equipped with private toilet facilities. In this phase the traditional hospital care is delivered.

The hospital is fully departmentalized and each service is supervised by the respective Chief of Service, selected out of those physicians who use the particular service most frequently. Their term of office lasts for one year and they are responsible for the quality of care delivered on their service.

The following departments are in existence and supervised by their Chief of Service:

1. Surgery
2. Internal Medicine
3. Obstetrics and Gynecology
4. Pediatrics and Nurseries
5. Pathology and Laboratory Services
6. Radiology Department
7. Emergency and Outpatient Department
8. Dental Department.

EXTENDED CARE FACILITY:

The first extended care facility in South Dakota introduces a new medical concept into this area. This part of the hospital provides for those patients who are not in need of regular care any more, who are ambulatory but not yet ready for discharge or nursing home care, either because of the chronicity of their disease process or because they are undergoing rehabilitation care. This type of care is also called "Intermediate Care." It has developed in direct response to Medicare (Title 18) regulations, in order to provide release of otherwise needed hospital beds and to obtain quality medical care for low hospitalization cost.

The unit in Memorial Hospital has 51 beds and is located directly adjacent to the hospital and is connected with it.

The salient features are one and two bed rooms with private toilet facilities and a common dining room and community room resulting in less personnel being involved in direct patient care but still having the benefit of immediate availability to all hospital facilities. As such, the unit offers itself for the convalescent phase of stroke, cardiac, cancer and other chronic diseases as well as for rehabilitation problems.

AMBULATORY CARE:

This phase is for patients who stay at home or in a private lodging but use the hospital facilities for diagnostic and/or outpatient treatment purposes only. This category is actually not an entity by itself but since this type of care is very popular in the Midwest and at other places, it is listed for completeness' sake to indicate that this is available.

REHABILITATION CENTER:

The Rehabilitation Center is an integral part of Memorial Hospital. It combines all rehabilitative activities and possesses the modern equipment necessary for the operation of a successful program.

Organization-wise, the Center is headed by a Medical Director. An Inhalation and Rehabilitation Committee of the Medical Staff serves in an advisory capacity. In order to receive treatment at the Center in any phase the patient has to be referred by his personal physician to the Medical Director of the Rehabilitation Center. Walk-in patients cannot be accepted. The progress of each patient will be constantly evaluated by a team of physicians and Rehabilitation Center personnel and intensive consultations within the medical team will be carried out. Besides on-going physical, inhalation and other rehabilitation therapy, the Center will offer nine organized programs, which will be explained in subsequent publications. These are:

1. Physical Therapy Rehabilitation Program with three main activities:
   a. Orthopedic (amputee, etc.) Rehabilitation Program
   b. Cardiac Rehabilitation Program
   c. Stroke Rehabilitation Program
2. Occupational Rehabilitation Program
3. Pulmonary Rehabilitation Program with two main activities:
   a. Chronic Obstructive Pulmonary Disease Rehabilitation Program
   b. General Pulmonary Disease Rehabilitation Program
4. Diabetes Rehabilitation Program
5. Child Development and Birth Defect Rehabilitation Program
6. Mental Health Rehabilitation Program
7. Tumor Clinic with three main activities:
   a. Tumor Conference
   b. Cancer Treatment Program
   c. Rehabilitation Program for Tumor Patients
8. Dental Clinic
9. Chest Clinic (in conjunction with the State Department of Health, Division of Tuberculosis Control).

DISCUSSION:

Recent influences have forced all health care facilities to offer diversified high quality medical programs. The requirements of participation for Medicare (Title 18) alone are such that smaller hospitals in the future may be unable to comply.[1]

Therefore concentration is the only answer to overcome the low population density, the lack of well trained ancillary personnel and the sparsity of capital. The hospitals in larger cities have to serve as regional centers, equipped with all modern facilities, not economical for smaller hospitals. Medical problems, requiring special care and skill, will then be referred to easily available intensive care units and special medical services at the regional hospital.

The regional hospitals have to develop the concept of continued care until full rehabilitation is obtained. The lack of a four year med-

ical school in our state at this time could actually turn advantageous. Such programs will have to be developed in many areas of the state, thus blanketing the state in a rather short time without the centripetal force of a medical school. With the use of modern diagnostic and therapeutic facilities, the demonstration of team work between physicians on one side and physicians and ancillary medical personnel on the other side, will be attractive enough for the area physicians to obtain continuing on-going postgraduate education at these regional hospitals. Furthermore, special courses for nurses and other medical personnel should be planned in the future as they have been held in the past to train these persons nearer to their homes, in new procedures, techniques and skills. Such programs are expensive for several reasons: First of all, due to the fact that much wider services are offered through trained medical personnel which command higher salaries. Secondly, equipment, much more sophisticated and expensive than in the past is put to work. Thirdly, a variety of specialists are obtained for consultation and procedures to work with the attending physician, thus entering the age of "group patient care."[2]

These then, together with the Fair Wage and Labor Law, are the responsible factors for the dramatic rise of hospital care costs which recently have received so much publicity. The patient of the 20th century expects care which is in line with the technological advances of the space age, yet it is not an issue of the controversial problem whether or not good health care is a "right" or a "privilege."

SUMMARY:

The concept of the modern community hospital as a regional hospital is developed in the example of Memorial Hospital of Watertown, South Dakota.

ACKNOWLEDGEMENTS:

Special recognition must be paid to the Watertown District Medical Society, its physicians and leadership, who, through their untiring efforts, enthusiasm and never-ending support, have made it possible to develop this new concept of care for the patients of this region. Also thanks should be expressed to the Board of Directors of Memorial Hospital, Watertown, South Dakota, who have shown foresight and always supported modern health care.

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THE DOCTOR IS LOSING HIS VOICE

Remarks of Paul Harvey, Chicago, News Analyst, Author, Columnist
23rd Annual Conference of Medical Society Presidents and Other Officers
Atlantic City, New Jersey, June 17, 1967

Good afternoon, Americans.

You know medicine.

I know something about socio-economics and much about public information.

Let's help each other.

Seven Years Wait for Surgery

In Britain, where "government medicine" has a head start on us, **you may have to wait seven years for surgery!**

In the United States, our Social Security taxes increased by a billion dollars this year. Even if there is no further expansion of this program, the cost in taxes will continue to increase over the next ten years.

Before the politicians of this Congress bait their hooks with any more "free medicine," we should study Britain's experience very carefully. It makes no sense knowingly to follow a blind leader into a ditch.

The British people are drifting back toward private health insurance. British United Provident Association privately insured the health of 73,000 Britons in 1950. But in 1960, they had covered 775,000. As of last year, this one Association was insuring the health of 1.2 million Britons.

Or take Prudential of London. Its private health insurance subscribers have multiplied fifteen times in fifteen years, doubled again in the past five years.

The reason that four million Britons now pay for National Health Service through higher taxes — but **pay extra** for private medicine — are the long waits for surgery and the hurried, impersonal examinations by NHS doctors.

The average United States doctor sees 169 patients in his office every week. In Britain, an NHS "government doctor" is expected to see 600 in a week!

The Wall Street Journal's Roger Ricklefs says a private patient in Britain may check into any hospital for any operation almost immediately. A state patient may wait six months or a year for nonemergency surgery. And for such things as hernia and varicose vein operations, he may wait seven years!

A typical patient who now pays extra for private treatment, Peter Dukes, Birmingham printer, 28, says, "I decided it's worth it to pay a bit."

And Peter Dukes' private doctor, Gilbert R. Smith, explains why he quit the welfare state medical system entirely:

"Under the National Health Service, it's practically impossible to practice medicine the way I like to work. I cannot give a proper examination in ten minutes, but when you have 35 patients in the waiting room, you are dominated by the thought of getting each examination over with in a hurry."

So from yet another example, we can see that socialism creeps backward as well as forward. Unfortunately, by the time the fallacies of "free medicine" are recognized, the people are already saddled with an overburden of taxes and it becomes almost impossible to dislodge the bureaucracy which feeds itself from that source.

"Government medicine" has proved to be potent vote bait in the United States — as it did in Britain. But it disguises a barbed hook.

The Man Who Isn't There

When there are no maids available, we can "make do." When gardeners are in short supply, Junior can handle the chore. When car washers are not available, we automate that task.

But when we cry out in the night for a doctor — and get no answer —we're in trouble.

Our Government is promising to spend much of our money on medical services, but **money cannot buy services which don't exist!**

It makes no difference how elaborate the politician's promises for Medicare, it cannot deliver what is not there.

President Johnson has projected elaborate, expanded plans for providing for the medical needs of everybody, from infancy through old age. He expects to get the money from us.

But where will he get the doctors?

In 1940 there were 350 doctors for every 100,000 American children.

Today there are only 150 doctors per 100,000 children!

Surgeon General, Dr. William Stewart, says, "Children today are receiving less medical care than they did 26 years ago. As a result, the infant death rate is increasing. Already fourteen other countries have lower baby death rates than the United States!"

So Bethesda is now instructing Navy wives in how to examine their own children; a "do-it-yourself clinic."

And while the number of Americans of all ages is increasing, the number of physicians is proportionately decreasing.

"Who wants to spend 12 years studying to become a bureaucrat?"

Trying to shift the burden to nurses doesn't work, because there's a chronic shortage of available nurses, too.

Dr. Jerome Schulman, Chief of the Department of Child Psychiatry at Children's Memorial Hospital, Chicago, says the mentally ill are the most woefully neglected.

"Of our nation's 1½ million hospital beds, half are occupied by mental patients. Each psychiatrist could right now have 750 patients in hospitals."

Available hospital space must be reserved for the most acutely ill; thus, for every patient now in a mental hospital, **ten should be.**

And the situation is worsening.

Unfortunately, many Americans construe campaign oratory for fact. Under Medicare, the fact is that the Government does not guarantee a hospital bed, it does not guarantee a doctor. It cannot. Government merely undertakes to pay most of the bill. There is no Federal obligation to supply services — just money.

And money cannot hire the man who isn't there.

Figuratively, Government has invited a hundred thousand people to a barbeque when there is food for only one thousand. Yet many members of Congress sought re-election last Fall by inviting more voters to partake of this meatless meal. Most will go home hungry, but the politician figures he can conjure up some juicier bait before the next election.

Until eventually, as in Britain, one after another of these "free services" is withdrawn, while the increased taxes go on and on and on . . . .

We Can Kill with Kindness

We can kill with kindness you know. Whenever I see Americans standing in line; whenever I see Americans demonstrating, demanding more Government handouts, I am re-reminded that we can, in fact, kill with kindness — that "good intentions" are not enough.

The Paul Harveys have lived recent years with a very painful, personal, daily reminder of this fact.

We over-fed our toy poodle on the sweets which the little fellow begged for.

It is important that you remember this: He did beg for them.

But he developed diabetes and became mostly blind. He failed to respond to oral therapy so every morning, seven days a week, for four and a half years, Angel took him to the veterinarian for his daily injection of insulin.

We had made him momentarily happy — but we had made him permanently dependent.

But we **know** so much better than we **do** — we Americans. So often we know what's right and we go right ahead and do what's wrong because we are not guided nearly so much by how much we know as by how we feel. We know so much better than we do. That's why a lot of pretty good Americans go around preaching free enterprise — and voting for Santa Claus. Because we know so much better than we do.

We know better than to smoke, but we are smoking three billion more cigarettes per year now than before the "scare."

I'm sorry. I apologize for presuming to expert a medical matter before this audience.

Actually I have been one not too secretly hoping that some of you would discover it's really television that causes cancer. Think about it. Then we could do away with both these evils — television and cancer — and all go back to smoking cigarettes again.

In the event this is being broadcast and before the opposition demands equal time to reply perhaps I should state that the cigarette makers now advise me that they have fixed their products so that it does not cause cancer any more. Thank you.

The only thing is, have you noticed they have now had to make the filter so long you are likely to get a hernia from sucking so hard.

Ethics Unchanged

I have never given carte blanche endorsement to any individual or any organization.

The individual you endorse today might tomorrow be guilty of some durn-fool, indefensible utterance which discredits himself and friends. The organization, however well intentioned today, might eventually go astray — and there you are with your name on its letterhead.

You can go down the line with principles; those remain unchanged and unchanging.

The principles of medical ethics are today unaltered from the time when they were originally uttered by the Babylonians. The code by which you practice medicine today is unchanged from that of Charoka and Susruta — Hindu writers of unknown antiquity.

Your guidelines were re-enunciated by Christ and specifically defined by Hippocrates. They were restated in the Code of Percival in 1792 and eventually in the various pronouncements of the American Medical Association.

The practice of medicine has changed; the principles have not changed.

And however short we may fall of living up to the image, the ideals which you have inherited must remain uncompromised.

It is noteworthy that 120 years ago, when the AMA was founded, the two paramount items of business dealt with minimal educational requirements and a code of ethics.

Now, if the doctor-patient relationship is to be supplanted by what Aldis called a "patient-committee relationship" — there is danger that historic obligations might become diffused. Allegiance to Government, however subtle, could cause the physicians sense of responsibility to the individual patient to become diluted.

Recently, we laymen have been confused and confounded by hearing men and women of distinction in your profession quoted on matters more political than medical . . . some of them urging that medicine be further socialized, espousing increased Government responsibility for our "welfare."

It is not as if your Federal Government ignores human need. Care for servicemen and their dependents, aid for the aged, all welfare grants are derived from "tax dollars." Thirty million Americans are now getting all or part of their medical care from government.

Yet renowned physicians lend their names to efforts further to provide "government medicine" for our citizens.

Why?

Is it because these doctors are themselves on the federal payroll? Is it because each of these derives part or all of his income from "government grants"?

Not one of the 26 "Physicians for Health Care for Aged through Social Security" is a full time practicing physician. They are a minute handful of the 200,000 members of the AMA.

Yet, because their names are news, they have influence all out of proportion to their numbers.

A man not in private practice is less likely to be "practical."

In Massachusetts General, Boston's ivory tower, most all research is "government sponsored."

Similarly Western Reserve has benefited from millions in "government grants."

The National Institutes of Health will dole out a billion of your dollars this year to support medical research.

Some medical schools' research budgets are 87.6 per cent supported by government.

What I'm saying is that doctors who are on the government payroll, however indirectly, through grants from the National Institutes of Health, the Department of Health, Education, and Welfare, the Atomic Energy Commission, etc., have a third allegiance.

Understand, I do not impugn the integrity of these distinguished doctors. I refuse to believe they would sell their convictions for dollars, though the temptation is obvious.

But I am concerned that they allow their reputations in one field to lend undue importance to their advice in another.

Einstein was a mathematical genius and a political dunce.

Who Will Speak for the Doctor

So — a handful of articulate doctors are self-appointed spokesmen for the rest.

These are mostly men from government subsidized university faculties who are not engaged in the kind of private practice which they frequently choose to criticize.

From their ivory towers they contradict a primary ethic of their own profession — they presume to diagnose and prescribe from a distance.

I have never known a dedicated doctor who is opposed to humane care for the aged or the poor or who shirked his share.

Yet the image of the modern doctor is largely one of heartless, mercenary indifference because — and I say this with considerable respect for the splendid efforts of Dr. Ed Annis — the medical profession has had no grass-roots cheerleader since Morris Fishbein.

When medicine had no other spokesmen, he

did not let its detractors get away with half-truths!

I don't like to have to wait in line at the doctor's office.

I resent the fact that my doctor does not work 168 hours a week.

I think I'm overworked when I work 11 hours a day, but it seems to me he should work 24.

Until I really think about it. But what's to make me think?

The professional man's contact with the rest of us has been inhibited by his ethics, by his preoccupation and by the fact that he studied medicine so long and works at it so hard there isn't time for much else.

And the doctor doesn't know much else.

He doesn't know about the symptomatic isms which infect the healthiest body politic.

He doesn't recognize the red metastases of the Marxist malignancy.

He doesn't comprehend that the big government which offers to keep us safe from ourselves has straitjackets in mind.

And for the doctor to ignore the basic laws of economics is as foolish as for a chemist to ignore the laws of valence — and altogether as potentially deadly.

When government takes our taxes to provide for our welfare, it's like a man trying to give himself a transfusion from his right arm to his left.

And when bureaucrats do it, they're likely to spill half of it in the process.

Historical Challenges

Your association is not unaccustomed to challenges and crises.

Apathy was your first adversary. When your AMA was born, two-thirds of all medical colleges ignored the birth.

Subsequently, sectarian medical bodies resisted your efforts. Where today you must fight off those who would bureaucratize your profession, then you had to rise above the do-it-yourself healers, homeopaths, eclectics and cultists. Then, too, you were outnumbered and your own members divided. But the Association held together and worked together and survived — and thrived.

Medical Journalism was threatened with disrepute in 1898. There were 275 periodicals on health and disease, only a handful had any merit. But only a handful survived. **The Journal** survived.

In the 1880's the AMA was threatened with disintegration. But when a large group refused to accept the ethical standards of the organization, their membership was canceled. The Code survived. And the AMA survived.

Trying to get Government to prevent the adulteration of foods in the nineteenth century, you failed, but gained important experience in influencing legislative developments.

By 1900 you knew what NOT to do. And in 1906 you tipped the balance in favor of a pure food and drug act.

And in the Twentieth Century, this Organization accepted an influential role in public affairs, with drastic structural reforms in your Organization, you were responsible for humanitarian, educational, and disciplinary reforms a long time before anybody in Washington recognized either as an advantage or a need.

Always uphill . . . against obstructionists — some in your own organization.

Starting in 1910, with your Council on Health and Public Instruction, began the golden years of the AMA's public relations. And from that effort, I believe, evolved the unquestioned supremacy of your Association in the medical profession.

Insofar as possible, I am omitting names of individuals however important they may have been to the emergence of the Association, because we are here concerned with principles, not personalities.

But when I speak of Journalism, I am talking about something I do know something about.

The AMA Journal — under George Simmons and later under Morris Fishbein — spread the power and influence of the AMA at home and abroad. In addition to being a catalyst for your profession **The Journal** was a medical authority of unimpeachable stature for the press and the public.

With it you could fight nostrums and quackery and compulsory health insurance and you fought each fight and won them all . . . so long as your voice was loud and clear.

And your voice, technically and editorially, was **The Journal.**

But for most of two decades the Doctor has been losing his voice.

Perhaps what has happened since 1949 was an inevitable result of a public grown prosperous and fat, yielding its prerogatives to Big Government.

The politician who promised to spend the most of our money on us . . . we voted for.

And there was nobody to talk back.

The doctor is losing his voice.

You doctors are notorious for neglecting yourselves, so it is not going to be easy to make you

adequately anxious about a case of laryngitis.

A Congressional investigation of allegedly over-priced drugs in hospitals is going to reflect discredit on the medical profession per se.

The headlines say, "One dollar for two aspirins to captive customer."

To suggest that the AMA might have ventilated this situation before the stench accumulated is to quarterback yesterday's game.

But that there has been inadequate liaison between the profession and the public is obvious.

Someone representing medical interests must answer headlined indictments with equal boldness.

The Doctor Is Losing His Voice

In handling medical matters the press characteristically tends to underscore the sensational.

Sometimes we can't help it.

A false alarm may be unavoidable in the instance of a novice researcher prematurely excited about some imagined breakthrough. Also, we shall always have with us some physicians who are less reluctant than others to focus attention on themselves with dramatic utterances.

But the greater risk to the public and to the profession derives from a misleading public statement on matters of medical ethics, philosophy and principle.

A news analyst cannot possibly be an authority on every subject which he is required to discuss. Generally, therefore, we come to rely on the counsel of experts in each field.

In a matter involving some facet of space flight, there are acknowledged spokesmen for both government and industry.

In most other physical sciences, it is comparatively easy to seek and find and consult with an official or quasi-official spokesman.

Big Steel has a spokesman; so do the Steelworkers.

In sports we take our questions to the persons with the best batting average. We ask questions on military weapons and tactics of military specialists whom history has proved right more often than wrong.

But in the urgent policy matters relating to medicine, where can we go?

Recently and presently the news media have most often accepted as "the last word" the word of the Surgeon General of the United States.

I do not believe the Surgeon General, however capable he may be, is the proper person to speak for the medical profession. He is a bureaucrat, necessarily parroting the party line of any incumbent political administration.

Recently, in such sensitive areas as federal money for private medicine, expanded social security, trade-name versus generic drugs, participation versus non-participation in Medicare, direct billing versus assignment, certification of medical necessity for Medicare and Medicaid, drugs costs and hospital rates, area-wide planning for hospitals, utilization review committees, the news media have been brainwashed with the "Government" point of view—because modern medicine has no other effective voice.

I say what I am saying with much respect for Dr. Blasingame whom I have sought out for guidance or a statement on some of these issues. But his prerogatives in enunciating socio-economic policy are presently hopelessly restricted.

Since the old jam-packed press conferences where **The AMA Journal** editor would announce the AMA diagnosis, prognosis and prescription in matters of national interest and public policy — the image of the medical profession has become blurred or blackened.

In respectfully recommending that the AMA again figure out some way effectively to speak through some one with one voice, I am aware of the risk involved. The spokesman might turn out to be a believer in the Big Government philosophy.

But I am willing to take that risk, because he can't be any further left than a politically appointed Surgeon General.

Every night at six, an audience of forty million televiewers is available to some articulate, uninhibited, preferably wavy-haired medical statesman-spokesman. And every night you don't supply one, the Government does.

Now . . . even in a terminal illness prognosis we would be careful to maintain what Dr. Paul Rhoads calls, "Honesty tempered with optimistic uncertainty."

Indeed, I am unconvinced that ours is, in fact, a hopeless case.

Today's youngsters are exposed to trigonometry in junior high school. By the time they are voting age they will know that two and two are four.

When they know this, tomorrow's politicians should not be able to sell them the Ponzi promise which they sold you and me; the promise that we can all stand in a circle with our hands in each others pockets and somehow get rich thereby.

When they have studied biology, physiology . . . how are tomorrow's politicians going to sell them the foolish notion that all everythings are

created equal, when in fact no two anythings are.

And when they have re-re-read history, will they not surely learn that great nation states never spend themselves rich. Inevitably they spend themselves poor.

I respectfully suggest that tomorrow's politicians had better start getting ready for a generation of voters who are going to be smarter than we were.

But just smarter is not enough. Just taller, and handsomer and healthier and more capable is not enough if they have lost that "old fire in the belly" which characterized their granddaddies.

We're telling our young people that being an American is worth dying for and, what is sometimes more difficult, worth working at. They want to know if it is worth it. I think they are entitled to an answer to that question.

As we say in the Missouri Ozarks, "let's shuck right down to the cob." Just how indelible would your patriotism and mine have been if during our formative teen years our government had told us we might have to go 6,000 miles away to fight communism but if we try to fight it 90 miles from Florida we'd be thrown into jail.

Just how red, white, and blue would you and I have been if we'd been reared in an hour when our Government penalized those who tried to prosper in order to subsidize laziness and lethargy and illegitimacy.

How enthusiastically would you salute Old Glory if you have been sent off to fight foreign wars under a mongrel flag — wars which we appear ashamed to lose and afraid to win.

I'm not excusing the young demonstrators but I am capable of comprehending their frustrations and I am willing to accept part of the responsibility for it.

Because we in the press too often look at their future through the wrong end of the telescope. We focus attention on the misfit and the off beat and the exceptional. We underscore ugliness.

But for the same reason the coach reviews the errors in last week's game; so that his team won't make the same mistake again.

So this afternoon I have focused attention on one debit midst a century of credits.

Please don't misunderstand this critique.

You have managed such medical progress in your lifetime that we and our children can expect additional useful pain-free years of life itself!

You gave us that!

We are forever in your debt. Now — **help us** who so respect you — to **help you in every way we can.**

Apply internally.

Take a relaxing break for Coca-Cola. Couple of times a day. Because Coke has the taste you never get tired of. It's always refreshing.

in moderate hypertension and
poorly controlled mild hypertension
(when diuretics or sedatives are inadequate, for example)

When your patients expect a lot...

like relief from hypertensive symptoms
(headache, fatigue, nervousness, palpitation or insomnia, for example)

like an up-to-date, once-a-day dosage schedule
(a schedule not unlike timed-release medication, for example)

like a daily dose of medication for peanuts
(at 10¢ a tablet, for example)

like generally well-tolerated therapy
(as described in the package insert, for example)

...give them a little
(one tablet daily)

Regroton®

chlorthalidone 50 mg., reserpine 0.25 mg.

Indications: Hypertension. **Contraindications:** History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases. **Warning:** With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small-bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue coated potassium-containing formulations immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur. Discontinue one week before electroshock therapy, and if depression or peptic ulcer occurs. *Use in pregnancy:* Regroton should be used in pregnant patients or in women of childbearing potential only when, in the judgment of a physician, its use is deemed essential to the welfare of the patients; adverse reactions (thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc.) are potential problems in the newborn.
Precautions: Antihypertensive therapy with Regroton should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents, other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. To avoid hypotension during surgery, discontinue Regroton therapy two weeks prior to elective surgical procedures. In emergency surgery, use, if needed, anticholinergic or adrenergic drugs or other supportive measures as indicated. Because of the possibility of progression of renal damage, periodic kidney function tests are indicated. Discontinue if the BUN rises or liver dysfunction is aggravated. Hepatic coma may be precipitated. Electrolyte imbalance, sodium and/or potassium depletion may occur. If potassium depletion should occur during therapy, Regroton should be discontinued and potassium supplements given, provided the patient does not have marked oliguria. Take particular care in cirrhosis or severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. Use cautiously in patients with ulcerative colitis or gallstones (biliary colic may be precipitated). Bronchial asthma may occur in susceptible patients. **Adverse Reactions:** The drug is generally well tolerated. The most frequent side effects are nausea, gastric irritation, vomiting, diarrhea, constipation, muscle cramps, headache, dizziness and acute gout. Other potential side effects include angina pectoris, anxiety, depression, bradycardia and ectopic cardiac rhythms (especially when used with digitalis), drowsiness, dull sensorium, hyperglycemia and glycosuria, hyperuricemia, lassitude, restlessness, transient myopia, impotence or dysuria, orthostatic hypotension which may be potentiated when chlorthalidone is combined with alcohol, barbiturates or narcotics, leukopenia, aplastic anemia, skin rashes, thrombocytopenia, agranulocytosis, nasal stuffiness, increased gastric secretions, nightmare, purpura, urticaria, ecchymosis, weakness, uveitis, optic atrophy and glaucoma, and pruritus. Eruptions and/or flushing of the skin, a reversible paralysis agitans-like syndrome, blurred vision, conjunctival injection, increased susceptibility to colds, dyspnea, weight gain, decreased libido, dryness of the mouth, deafness, anorexia, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Jaundice, xanthopsia, paresthesia, photosensitization and necrotizing angiitis are possible. **Average Dosage:** One tablet daily with breakfast. **Availability:** Pink, single-scored tablets in bottles of 100 and 1000. (B) 46-600-B
For details, see complete Prescribing Information.

Geigy Pharmaceuticals, Division of
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Geigy

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — Volume 1, No. 2 — February 1948

Excerpt from "Primary Malignancy of the Lung," by Alton Ochsner, M.D., Michael E. DeBakey, M.D. and J. Leonard Dixon, M.D.

Although I am sure that many of you when you saw the title of "Primary Malignancy of the Lung" wondered why I should talk about such a subject which is probably of little interest to you, I hope before I finish to convince you that primary malignancy of the lung is a frequent and therefore an important lesion. Whereas a decade ago primary malignancy of the lung was considered rare it is now known to be one of the most frequent primary malignant lesions in the male. In fact, primary bronchogenic carcinoma occurs in from one to four per cent of all autopsies, and from ten to fifteen per cent of all carcinomas occur primarily within the lung. This, therefore, is a condition in which every practitioner of medicine should be interested and is a condition which must be thought of more frequently than it has been in the past.

There has been a definite increase in the incidence of bronchogenic carcinoma in the past twenty-five years. Whether this increase is only relative in that more cases are being recognized and diagnosed or whether it is absolute cannot be definitely stated. It is our belief that although the former is important there is an actual increase in the incidence of bronchogenic carcinoma, the reason for which is not obvious. Statistics show, however, that the increased incidence in primary lung malignancy has been progressive, whereas the incidence of the malignant lesions involving the rest of the body has remained about the same throughout the United States as a whole.

The cause of bronchogenic carcinoma is not known. There is some presumptive evidence that smoking might be a factor and might account for the increased incidence. It is conceivable that the long continued irritation of the bronchial mucosa caused by habitual smoking may be an etiologic factor.

IMPROVEMENT OUR AIM

This is the second issue of the South Dakota Journal, as you can see, the editors are striving to improve the publication with each issue. Our first number lacked a proper weight cover and it needed more color. This issue strives to right those errors.

We feel that we can be proud of the scientific material contributed thus far, but we would like more of the same, and of the home grown variety, if our Journal is to be a South Dakota Proposition, the bulk of the writings should come from South Dakota physicians. The journal is a challenge to every practitioner to disseminate information of a nature that will be beneficial to others in practice in the State.

Are you with us, Doctor?

PUBLIC RELATIONS

Public relations problems have always been controversial as far as the medical profession is concerned but withal they are a necessary evil. In a conversation with an osteopathic physician the other day the author was interested to hear the doctor state that the worst crime he could find amongst the members of the healing arts professions was the lack of attention to favorable public opinion.

When pressed for an explanation he responded with the idea that high costs of medical care, un-

certain charges, and brusque treatment by physicians turned people towards a plan of medical care sponsored by the government.

This statement should give the medical profession something to think about. Basically, public relations boils down to your treatment of the patient in your office. If the patient leaves with a good taste in his mouth, chances are you won't have much trouble lining him up on your side when the showdown comes. If he walks out feeling that the knife in still being turned between his ribs, then you will have a life-long opponent. If that happens, all the nice things that a public relations expert could get into the newspapers for you will not amount to a hill of beans.

Thus it is well to remember that you are your own best publicity agent. Your conduct and the conduct of your practice of medicine will move the public to support or oppose you on vital legislation that is now pending in Congress.

DR. AUSTIN SMITH SPEAKER TO 7th DISTRICT

The Seventh District (Sioux Falls) Medical Society met at the Cottage in Sioux Falls, for their first meeting of 1948 on Tuesday the 13th of January. Approximately fifty-five doctors were in attendance to hear Dr. Austin Smith of the Council on Pharmacy of the American Medical Association.

Before Dr. Smith spoke, President J. A. Nelson appointed local committees for the Annual Meeting which will be held in Sioux Falls, May 30, 31, and June 1.

General Chairmen
J. A. Nelson, Chr.
F. S. Stahmann
R. G. Ogborn

Banquet
D. H. Breit, Chr.
J. V. McGreevy
V. V. Volin

Housing
W. A. Arneson, Chr.
R. E. Greenfield
D. H. Manning

Courtesy
C. J. McDonald, Chr.
S. A. Donahoe
G. E. Van Demark
M. S. Grove
H. W. K. Zellhoefer

Entertainment
A. M. Harris, Chr.
H. E. Shreves
L. J. Pankow

MEDICAL SCHOOL COMMITTEE MEETS WITH GOVERNOR

The South Dakota Medical Association's Committee on Medical School affairs met with the Governor of South Dakota in Pierre on January 18th to discuss medical school proposals. No report was made at the time of the meeting on the results of the discussion inasmuch as the committee is not prepared to make any recommendations as yet. A full report will be made by the committee at the Annual Meeting. Members of the Committee are Drs.:

Donald Slaughter, Chairman
William Duncan
L. J. Pankow
William Saxton
F. R. Williams
H. Russell Brown — ex-officio

PRAIRIE BREEZES

(The following gusts are blown in with no verification of any kind. If we're an ill wind, let us know).

Dr. Joseph Hanrmas just recently opened offices in Sturgis, where plans for building a hospital are being formulated.

Dr. Jack Dunn left Bowdle in November. (This particular "Breeze" was late. It snowed in Bowdle.)

Dr. Robert Quinn will practice in Yankton with A. J. Smith — will later take a residency.

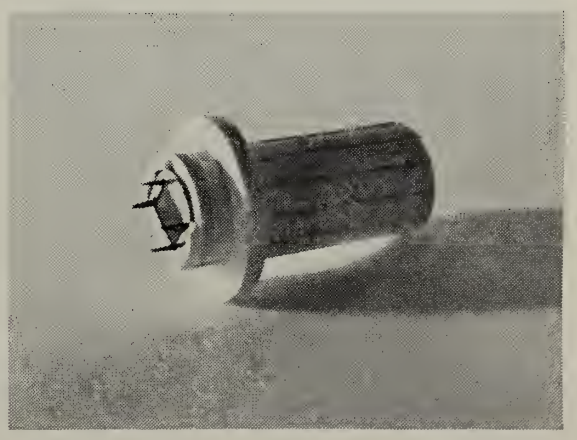
Doctors are still needed in South Dakota, Huron, Hoven, Redfield and Yankton are looking around.

A physician from Phelps, Wisconsin, will or has opened practice in Philip. No name or record at this office up to time of publication.

Dr. A. Torab Mehra left Midland some time ago. New location not known.

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.



TUBERCULIN, TINE TEST (Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

Lederle

330–8/6135

THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

RESEARCH VS. TEACHING . . . AGAIN

A recently released report to President Johnson by the National Advisory Commission on Health Manpower urged an end to the "extended neglect" of the educational function of medical schools. It stated that "the availability of funds for research has, by default, raised research within the university medical center so that it has become the primary function of the institution. The failure to provide funds for education has taken away the prerogative of medical schools to maintain a balance between research and teaching. In our view, the only appropriate solution is direct funding of the educational process itself."

The AMA House of Delegates urged corrective measures for the "imbalance between biomedical research and education." The House also stated that additional funds should be allocated from various sources for the educational function.

I take issue with their views that the educational process has been neglected. True, research activity has increased considerably but this is as it should be since the research effort 20 years ago was almost non-existent compared to the teaching function. This situation has now changed so that physician training is no longer the sole objective of a medical center but finds itself a participant in a team effort along with many other aspects of the health professions.

By increased funding of the educational function one could not increase the amount of material taught the student since they are already hard-pressed to learn what is now presented. Increased funding should provide new schools or enable existing schools to increase their enrollment. This is fine and it is being done, however, keep in mind that increased enrollment means a larger faculty which would require more Ph.D.s to teach the basic sciences. An increase in the number of Ph.D.s graduated requires strong research programs. The curriculum could be changed to make the courses more meaningful to the student but care should be taken not to de-emphasize the basic medical sciences per se or to have these courses so clinically oriented that they lose their effectiveness as basic science courses. If rather significant changes were made in the curriculum, perhaps it would be more appropriate to have physicians teach the medical students throughout the entire educational program.

It seems to me that the neglect of the educational function is more apparent than real. The research and educational functions can not be separated into primary and secondary levels since they are inseparable parts of a whole philosophy. However, I think an individual may lose his enthusiasm for teaching when he finds students who are less than interested or enthusiastic in learning the material he presents. I am astonished at the apathy of some students studying the basic sciences especially in an era of discovery that will make Mendelian genetics and Darwin's theory pale into insignificance. It may be this loss of enthusiasm on the part of the educator that is being equated with the diminution of the educational function. Although we should keep in mind that the faculty will do best that which is most rewarding, it is fallacy to say they are no longer interested in teaching. They always have been and always will be anxious to teach their newfound knowledge **to all those who wish to learn.**

—Charles R. Gaush, Ph.D.
Assistant Professor

THE MONTH IN WASHINGTON

The National Advisory Commission on Health Manpower reported that the nation's health care system must be improved to assure that quality health care is available to all Americans at a reasonable cost.

The 15-member Commission, in its report to President Johnson, urged a substantial expansion in the capacity of existing medical schools and continued development of new schools. At the same time, the advisory group said that "although the need for more physicians is urgent, the costs and dangers of a crash effort to increase production appear to outweigh the benefits."

The Commission, headed by J. Irwin Miller, chairman of the Cummins Engine Co., Columbus, Ind., was set up in May, 1966, by President Johnson to recommend bold, imaginative ways to meet health manpower needs. Five physicians signed the report, including Dwight Wilbur, M.D., President-Elect of the American Medical Association.

The Commission members agreed that tackling the problem of manpower, alone, would not cure present ills.

". . . If additional personnel are employed in the present manner and within the present patterns and systems of care, they will not avert, or even perhaps alleviate, the crisis," the Commission said.

"Unless we improve the system through which health care is provided, care will continue to become less satisfactory, even though there are massive increases in costs and in numbers of health personnel."

The Commission recommendations were accompanied by an assertion that government alone is not big enough to solve the problems of health care for the American people.

The American Medical Association's House of Delegates at its recent meeting in Houston, Tex., approved a report of the Board of Trustees on the Commission's report. The Board stated:

"The 'Report of the National Advisory Commission on Health Manpower' reflects much of the serious attention given to the evolving needs of health care long recognized, studied and implemented by the American Medical Association and other professional groups in the health fields.

"The House of Delegates and the Board of Trustees of the AMA have not had time to study the Report carefully . . . . However, it appears to recognize the needs arising from the rapid growth of the public's desire for health care. This attitude is the result of increasing awareness of the great advances in medical science and techniques, and of the prolongation of life for millions into middle and advanced ages . . . .

"The Report will receive the intensive study of the various expert groups within AMA and reports on their recommendations will be issued as soon as they can be developed properly. There appear to be some areas in which modifications will be necessary to assure attaining the objectives sought for advancement of health care for all citizens."

The Commission's proposals included:

—Federal funds in support of capital or operating costs of education should be provided to a medical school in such a way that they create economic incentives for the school to expand enrollment while improving its quality.

—The federal government should make available to any medical student loans to cover the full costs of tuition and living expenses during formal professional education. The student should be able to choose between repaying the loan from earnings over a period of years or giving two years of his time to approved national service apart from Selective Service obligations.

(Dr. Wilbur discussed from these two recommendations: "I believe the principle is not sound and that the recommendations are impractical, unnecessary, will not serve the purposes intended, and will be largely unacceptable to most students.")

—The federal government should give high priority to the support under university direction of experimental programs which train and utilize new categories of health professionals.

—At a minimum, foreign-trained physicians who will have responsibility for patient care should pass tests equivalent to those for graduates of U. S. medical schools.

—The Selective Service Act should be amended to provide for the automatic transfer of the records of every draft-eligible health professional, upon his graduation from professional school, from the local board of his original registration to the local board in whose jurisdiction he works and for subsequent transfer with each change in the location of his work.

—The Selective Service Act should be amended to provide equal draft-liability for U. S. and foreign medical graduates.

—Service with the U. S. Public Health Service should be phased out as a substitute for the military obligation of health professionals.

—The Department of Defense should be instructed to encourage the greater use of the Military Medicare Amendments of 1965 and should study the feasibility of utilizing voluntarily obtained health professionals in military facilities located in the United States.

—Nursing should be made a more attractive profession by such measures as appropriate utilization of nursing skills, increased levels of professional responsibilities, improved salaries, more flexible hours for married women, and better retirement provisions.

—Programs for health care of the disadvantaged should be given highest priority and made available wherever needed.

—Professional societies, universities, and state governments should undertake, with federal support, studies on the development of guidelines for state licensure codes for health personnel.

—Professional societies and state governments should explore the possibility of periodic relicensing of physicians and other health professionals.

—Professional societies, health insurance organizations, and government should extend the development and effective use of a variety of peer review procedures in maintaining high quality health and medical care.

* * * *

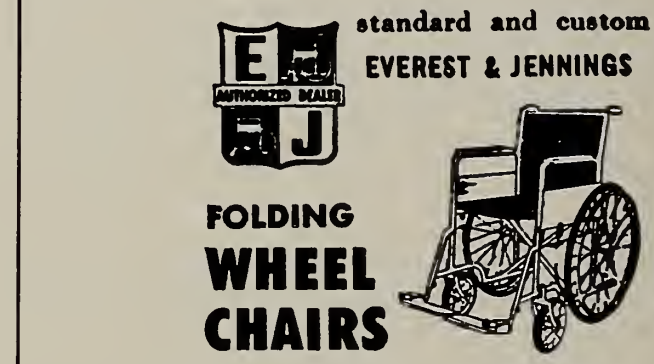
President Johnson signed a $281 million mental retardation bill with a statement that the nation still is not doing enough to solve the problem.

He said that in dealing with the problem of mental retardation it was clearly the obligation of the nation to act. "We are not doing enough, we must do more, we are going to do more," Johnson said.

The bill strengthens federal aid for the construction of new facilities for the mentally retarded.

He also signed a three-year, $589 million extension of federal aid for state public health programs.

It provides for federal licensing of clinical laboratories operating in interstate commerce unless they are run by pathologists, in which case the facilities would have to meet standards set by the American College of Pathologists or the American Hospital Association. Individual physicians operating labs for their own patients would not be affected by the new law.



Path CAP sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

CHOLINESTERASE

The determinations of serum cholinesterase have had their chief value in estimating the prognosis of chronic liver disease as well as being used as a screening test for exposure to various pesticides.

The discovery of acetylcholine in animal tissues and its role in neurohumoral transmission fifty years ago has been applied only recently to the clinical laboratory diagnosis and prognosis of human disease. Acetylcholine is hydrolyzed by two distinct enzymes, acetylcholinesterase found principally in nervous tissue and erythrocytes, and pseudocholinesterases widely distributed in many tissues including blood plasma and serum. The pseudocholinesterases are found in the alpha$_2$ globulin fraction. The study of acetylcholinesterase in neurological disease has been limited because of technical difficulties in obtaining nerve tissue, but serum cholinesterase activity has been investigated extensively in many disorders summarized in Table I.

The methods used to measure serum cholinesterase all employ a suitable enzymatic substrate at 37° C and have shown a fairly constant normal range of activity of 2.0 to 5.5 micromoles of acetylcholine hydrolyzed per minute per milliliter of serum. However, some confusion has resulted from use of different arbitrary units by various investigators.

Cholinesterase activity is fairly stable, and sera can be stored frozen for several weeks without loss of activity. Hemolysis must be avoided in obtaining the specimen. Slight increases occur after meals and exercise, and this may artifactually raise low results in cases of borderline activity.

Serum cholinesterase is depressed in most forms of liver disease and correlates best with the level of the serum albumin. This is especially true in cirrhosis and portal hypertension where the cholinesterase is a more sensitive test than albumin for evaluating a patient's response to medical therapy or portocaval shunt. In obstructive jaundice the cholinesterase is usually normal except in cases of malignancy where low serum activity is the rule.

After nerve section serum cholinesterase activity rises to twice normal, being correlated with the healing of the damaged sheath, and then slowly falls to normal. Elevations in serum cholinesterase have been reported in progressive disseminated sclerosis. Epileptogenic brain tissue has a higher activity than normal brain, but no significant serum cholinesterase changes have been observed in epilepsy.

Organic phosphorous insecticides inhibit both tissue and serum cholinesterases. The decreased activity of cholinesterase has proved to be one of the most valuable indications of exposure to organic phosphorus insecticides. Some of these compounds have effects that are of long duration and the inhibition of activity is often irreversible. Serum activity also falls in certain individuals sensitive to the local anesthetic, Nupercaine, and the muscle relaxant, Suxamethonium. This sensitivity appears to be genetically determined. Such patients can be treated when necessary, as in prolonged apnea, with "Cholase," a commercial preparation of human pseudocholinesterase.

Transient decreases in serum cholinesterase activity are seen in myocardial infarction during the first week and the greater or more prolonged the fall the more serious is the prognosis.

High serum cholinesterase activity, up to three times normal, is seen in the nephrotic syndrome. The enzyme is associated with the alpha$_2$ globulin fraction which is elevated in this condition. Elevated serum levels may also result from destruction of white blood cells after nitrogen mustard therapy. High serum activity has not been found in hemolytic anemias.

Physiological depressions are seen in the newborn and in normal pregnant women. Occasional high values are found in children. Serum activity is slightly greater in males than in females and increases in both sexes with increasing age.

Specimen required: 2 ml. of serum.

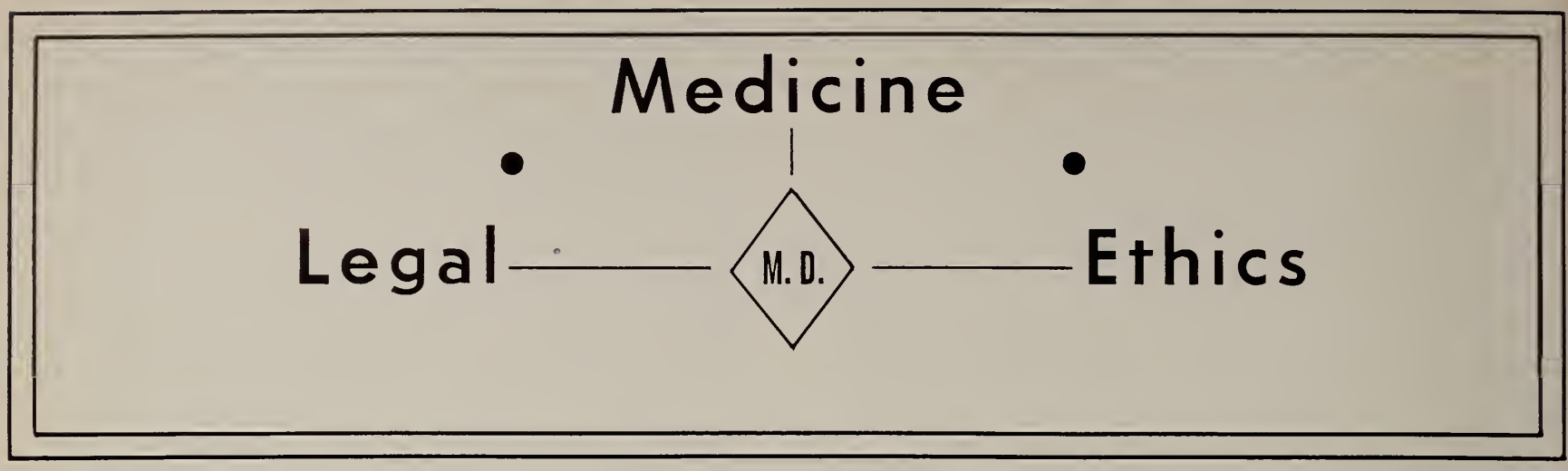
SERUM ACTIVITY

Acute Infectious Hepatitis	—
Acute Toxic Hepatitis	—
Cirrhosis	—
Obstructive Jaundice	N
Liver Metastases	—
Nerve Section	+
Disseminated Sclerosis	+
Epilepsy	N
Organic Phosphorus Poisoning	—
Nupercaine and Suxamethonium Sensitivity	—
Nitrogen Mustard Therapy	+
Nephrotic Syndrome	+
Acute Myocardial Infarction	—
Pregnancy	—

— Decreased values N Normal values
+ Increased values

REFERENCE

1. J. H. Wilkinson, **An Introduction to Diagnostic Enzymology,** Chap. 8, p. 193-212, Edward Arnold Publishers, London, 1962.



"MENTAL THERAPIST" CANNOT DIAGNOSE AND TREAT MENTAL CONDITIONS

A person who has BA and MA degrees in Social Work cannot, under the title of "Mental Therapist," hold himself out to the public as a diagnostician and treater of mental conditions and actually engage in such practice. The Attorney General of Iowa so ruled in a recent opinion.

The diagnosis and treatment of mental conditions constitutes the practice of medicine, and it is immaterial that the "Mental Therapist" does not intend to prescribe medicines. "Mental Therapy" is not included among the professions that can be licensed in the field of healing arts. The holding of the two degrees in Social Work does not qualify the "Mental Therapist" to practice any branch of the healing arts that is defined in the statutes.

* * *

TESTATRIX' LACK OF MENTAL CAPACITY ESTABLISHED BY MEDICAL WITNESSES

A will, in which the testatrix disinherited her children, was properly refused admission to probate, where the evidence supported the finding that she lacked the mental capacity to make a will, the Supreme Court of Appeals of Virginia ruled. Five general practitioners who treated the testatrix on various occasions between the late 1950's and her death in 1964 stated the opinion that she was insane. Two psychologists, who examined her and administered tests to her, testified to the opinion that she was psychotic. There was also testimony of laymen as to the testatrix' unfounded hatred of her children, and as to delusions and irrational behavior on her part.

Information provided by the Law Department of the American Medical Association, 535 North Dearborn, Chicago, Illinois 60610.

LIMITS OF GRATUITOUS SERVICES

Poverty of a patient, and the obligation of physicians to attend one another and the dependent members of the families of one another, should command the gratuitous services of a physician. Institutions and organizations for mutual benefits, or for accident, sickness and life insurance, or for analogous purposes, should meet such costs as are covered by the contract under which the service is rendered.

* * *

HEALTH AND MEDICAL INSURANCE BENEFITS

If a physician or his dependents have insurance providing benefits for medical or surgical care, a physician who renders such service may accept the insurance benefits without violating the traditional ethical practice of physicians caring for the medical needs of colleagues and their dependents without charge.

* * *

PATENTS AND COPYRIGHTS

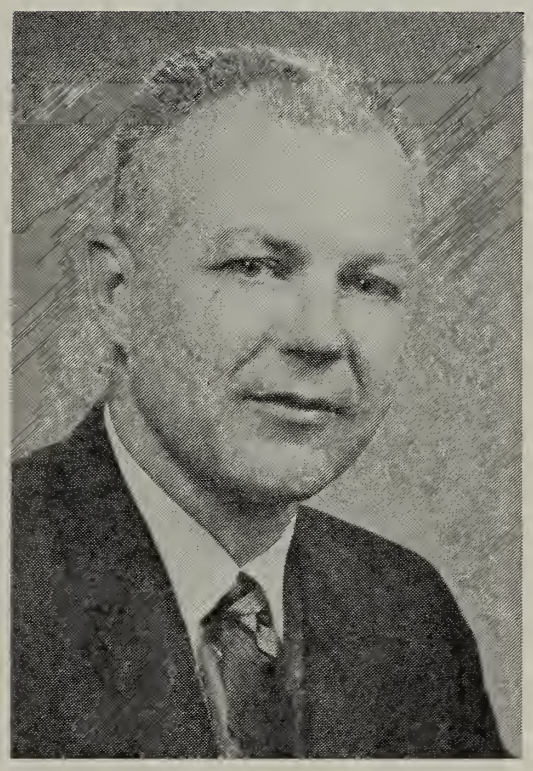
A physician may patent surgical instruments, appliances and medicines or copyright publications, methods, and procedures. The use of such patents or copyrights or the receipt of remuneration from them which retards or inhibits research or restricts the benefits derivable therefrom is unethical.

* * *

SECRET REMEDIES

The prescription or dispensing by a physician of secret medicines, or other secret remedial agents, of which he does not know the composition, or the manufacture or promotion of their use is unethical.

PRESIDENT'S PAGE



To be fully appreciated, the Legislative process must be observed at close range. Certainly spending a day or two in Pierre does not make one expert; but it does stimulate interest and increase one's understanding of State government. All of us should avail ourselves of this opportunity.

To be truly effective, a legislator must bring to bear a combination of talents. Many people do not possess the talents, and fewer still are willing to sacrifice the time and money required.

Dr. Bob Bartron has done an outstanding job and proven himself a most effective leader in the State Senate. We are all indebted to him for the work he has done. It would seem that more physicians should attempt to follow his example.

JOHN J. STRANSKY, M.D.
President

plan to attend:

MARCH 22-23, 1968
THE PALMER HOUSE
CHICAGO, ILLINOIS

2ND NATIONAL CONGRESS ON THE SOCIO-ECONOMICS of HEALTH CARE

Sponsored by the Council on Medical Service and the
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Dr. Maynard Porter demonstrated mouth to mouth artificial respiration and other steps to be followed for emergency care at a meeting of the Parkston 4-H club.

* * *

The Fourth District Medical Society met December 1, 1967 at which time the following officers were elected: **E. H. Collins, M.D.,** President; **R. C. Jahraus, M.D.,** Vice President; and **J. T. Cowan, M.D.,** Secretary-Treasurer.

* * *

Yale H. Charbonneau, M.D. of Huron and his family spent Christmas in Rome and then traveled to Tel Aviv where Dr. Charbonneau attended a medical meeting.

* * *

The Tenth District Medical Society met on December 17, 1967 at which time **Robert Hayes, M.D.** addressed the society regarding the Heart, Cancer and Stroke Program.

The Academy of General Practice elected **Dr. Thomas Eyres** to active membership in the national association.

* * *

The Webster Kiwanis Club presented **Dr. Walter Karlins** with a plaque in recognition of his service to the community.

* * *

Gerald R. Herrin, M.D. has joined the medical staff of the Homestake Hospital.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

At the Fifth District's December First Meeting **Robert Hayes, M.D.,** spoke on the South Dakota Regional Medical Centers. Election of officers was held immediately following Dr. Hayes' speech and **G. M. Huet, M.D.,** was elected President, **G. R. Bell, M.D.,** Vice President, and **W. O. Hanson, M.D.,** Secretary-Treasurer.

* * *

Clark Johnson, M.D., Yankton, was elected chairman of the District 2 Study Area of the South Dakota Regional Medical Program. At the district's first meeting **T. H. Sattler, M.D.** acted as temporary chairman and **Robert Hayes, M.D.** acted as moderator for the panel discussion.

* * *

A preliminary meeting aimed at the implementation of the South Dakota Regional Medical Program was recently held in Watertown. **Robert Hayes, M.D.** acted as coordinator of the discussion with **Drs. Wrage** and **Stransky** participating in the program.

* * *

Carol Anne Vieregg of Sioux Falls and **Eugene R. Regier, M.D.** of Canton were married Saturday, Dec. 2, 1967.

John J. Stransky, M.D., President of the State Medical Association made his official visitation to the Seventh District Medical Society on December 5, 1967. Following a short talk given by Dr. Stransky, on the services available from the State Medical Association, the seventh district elected **D. L. Ensberg, M.D.,** President; **B. J. Begley, M.D.,** Vice-President; **J. B. Gregg, M.D.,** Secretary; and **Robert Giebink, M.D.,** Treasurer.

* * *

Measles and Immunization clinics have been held by **Anthony Petres, M.D.,** Salem; **Doctors DeGeest** and **Freeman,** Miller; **L. W. Holland, M.D.,** Chamberlain; **B. P. Nolan, M.D.,** Mobridge.

* * *

Dr. Chris Moller of Dell Rapids was the recipient of a plaque for meritorious service to humanity.

* * *

Warren L. Jones, M.D., Sioux Falls, has been appointed to the policy board for statewide planning for vocational rehabilitation services.

* * *

William Renforth, M.D. has announced the opening of his office in Edgemont for the general practice of medicine.

On December 14, 1967, **John J. Stransky, M.D.** made his official visitation to the sixth district medical society. Following a speech given by Dr. Stransky, the society elected **J. T. Berry, M.D.,** President; **Donald Weatherill, M.D.,** Vice-President; and **John Murphy, M.D.,** Secretary-Treasurer.

* * *

Bowling trophies were donated and presented to winning bowlers in the Heart Bowling contest, by **H. Dean Hughes, M.D.,** Clear Lake.

* * *

The Davison County Mental Health Association has appointed **B. R. Skogmo, M.D.** and **Preston P. Brogdon, M.D.** to its planning committees.

* * *

The new 2,900 square foot addition to the State Medical Association Office is now completed and is in full operation.

* * *

On December 14, 1967, the third district medical society met and was addressed by **Robert Hayes, M.D.** with respect to the "proposed Heart, Cancer, and Stroke Centers." New officers for 1968 were elected. **Robert Shaskey, M.D.,** President; **H. J. Stensrud, M.D.,** Vice-President; **C. M. Kershner, M.D.,** Secretary-Treasurer.

E. S. Watson, M.D., Chairman of the board of directors of the Area Guidance Center in Brookings has announced that additional Staff members will be necessary for the continued operation of the center.

* * *

A hospital team workshop was held in Rapid City. Consultants for the workshop were **Drs. R. H. Harris, A. R. Hofmann, R. K. Johnson,** and **H. S. Shining.**

* * *

N. B. Saoi, M.D. has been elected president of the Sacred Heart Hospital medical staff. Other new officers are vice president, **J. K. Jackson, M.D.,** secretary-treasurer, **J. T. Tidd, M.D.**

* * *

C. F. Binder, M.D. spoke to the Chamberlain Kiwanis Club about "Cholesterol and your Diet."

* * *

The Garretson P.T.A. heard a panel discussion on sex education in schools. **Marvin Wingert, M.D.** presented the medical information for the panel.

* * *

Anthony Petres, M.D., Salem, spoke to the McCook County Ministerial Association about the effects of various drugs upon the human nervous system.

EDWARD E. GREENOUGH, M.D.

1920—1967

Dr. E. E. Greenough, 47, Sioux Falls physician, died December 20, 1967 in a traffic accident. Funeral services were held Saturday, December 23, 1967 at the First Baptist Church in Sioux Falls.

Dr. Greenough was born in Salem on February 23, 1920. He was graduated from the Northwestern Medical School, Evanston, Ill., in 1946 and began practice in Sioux Falls, 1947.

He is survived by his wife, one son, and three daughters.

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THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Organized 1882 — 711 North Lake Avenue, Sioux Falls, South Dakota 57104

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THE SOUTH DAKOTA

JOURNAL OF MEDICINE

**JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
AND THE SIOUX VALLEY MEDICAL ASSOCIATION**

Volume XXI **March, 1968** **Number 3**

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SOUTH DAKOTA PRENATAL CARE STUDY
V. BABIES: LENGTH OF GESTATION

Brooks Ranney, M.D.*

Introduction:

Question No. 11 on the Study forms was as follows:

11. "Did your baby come on time, early, or late?"
    1. On time (within two weeks of the doctor's estimated delivery date)?
    2. Two weeks, or more, early?
    3. Two weeks, or more, late?

As noted in report No. III of this Study, about 30% of the 10,606 responding mothers did not answer this question, either because they had no prenatal care (2.21%) (1), because their doctors had not informed them of their estimated term dates (2), or because their doctors had not written down their estimated term dates on the copies of their prenatal records which were sent to the hospitals two weeks prior to delivery.

Nevertheless, statistics obtained from the 70% of mothers who did answer question No. 11 correlate fairly well with babies' birth weight data (3), and are, therefore, considered to be reasonably significant.

Correlations:

1. Parity:

Mothers delivering third babies had the highest percentage of **normal** length of gestation. Babies arrived **early** most frequently during first pregnancies, and next most frequently, during sixth or subsequent pregnancies. There were no significant variations among babies delivered two or more weeks **late.** (Table No. 1)

Table No. 1
Effect of Parity on Length of Gestation
(Recorded in %)

Number of this pregnancy	Baby born more than 2 weeks early	Baby born "on time"	Baby born more than 2 weeks late
1	**9.93**	73.57	5.27
2	7.92	75.05	4.85
3	6.48	**77.26**	5.05
4	7.47	75.38	5.37
5	7.76	74.73	5.44
6 or more	**8.24**	75.47	4.51

2. Prior Abortion:

Mothers who had had a prior abortion were more likely to be delivered of this pregnancy **early** or **late.** Mothers with no history of prior abortion were more likely to have this baby within 2 weeks of the term date. (Table No. 2)

(Note: 78% of the mothers who did **not** answer Question No. 11, concerning length of gestation, were delivered during the months of July, August, and September. The South Dakota Prenatal Care Study was initiated July first. Probably the obstetric nurses, who were assisting mothers with these forms, required two to three months' experience to discover how much careful assistance some mothers needed in order to answer Question No. 11 accurately, or at all.)

*Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine; The Yankton Clinic, Yankton, South Dakota. (Note: This is part of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetric Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic; and which benefited from the invaluable assistance of Dr. Neil Palmer, formerly from the Computer Center at the University of South Dakota, now Chairman of the Department of Sociology at the University of Toledo.)

Table No. 2
Effect of Prior Abortion on this Length of Gestation
(Recorded in %)

	This baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
Had prior abortion	**9.76**	73.42	**5.94**
No prior abortion	7.78	**75.49**	4.78

More striking is the fact that the 88 mothers who reported having had two, three, or more prior abortions showed nearly a doubled rate of **early** delivery with this pregnancy (Table No. 3). (This coincides with birth weight information, previously published (3).)

Table No. 3
Number of Prior Abortions and Length of Gestation
(Recorded in %)

	This baby was delivered more than 2 weeks early
No prior abortion	7.79
One prior abortion	8.20
Two prior abortions	**13.36**
Three or more prior abortions	**13.08**

3. Prenatal Care:

Mothers who had **no** prenatal care were more likely to be delivered more than two weeks **early,** whereas mothers who received prenatal care were more likely to be delivered "on time," or more than two weeks beyond the estimated term date (Table No. 4).

Table No. 4
Effect of Prenatal Care on Length of Gestation
(Recorded in %)

	This baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
Had prenatal care	8.31	**57.49**	**5.29**
No prenatal care	**10.67**	44.66	2.91

As expected, there is a direct relationship between the number of prenatal visits of a mother to her doctor, and the length of gestation. Earlier arrivals allow less time for prenatal visits. However, the rate of **prematurity** (according to length of gestation) is nearly **doubled** among those mothers who reported zero to five prenatal visits before delivery; this is significant (Table No. 5).

Table No. 5
Number of Prenatal Visits and Length of Gestation
(Recorded in %)

Number of Prenatal visits	Baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
None	**13.69**	56.16	0
1 to 5	**15.92**	68.26	2.62
6 to 10	8.58	**76.60**	3.75
11 to 15	2.72	**78.86**	**7.18**
More than 15	5.56	68.52	**16.46**

4. Mothers' Weight Gain:

It is not surprising (3) that there is a direct relationship between **maternal weight gain** and the **length of gestation** (Table No. 6). What is surprising is that, one-half of these mothers were allowed to gain more than 20 pounds, one-third were allowed to gain more than 25 pounds, and 643 were allowed to gain more than 35 pounds!

Table No. 6
Mothers' Weight Gain and Length of Gestation
(Recorded in %)

Mothers' Weight Gained (or lost)	Baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
No gain (or loss)	**17.27**	56.36	3.63
Gained 1-15 lbs.	**13.95**	69.21	3.89
Gained 15-20 lbs.	8.46	**76.44**	4.01
Gained 20-25 lbs.	5.81	**77.66**	4.88
Gained 25-35 lbs.	5.09	**77.83**	**6.49**
Gained more than 35 lbs.	5.59	74.33	**9.64**

5. Complications of Pregnancy:

To the question, "Did you have any special problem or complication during this pregnancy," each mother was expected to respond, yes, or no. Her response, based on probably incomplete medical information and faulty memory, supplemented by the assisting nurses' knowledge of her prenatal record, cannot be considered an exact medical record of her pregnancy, but should generally indicate how healthy she felt during those nine months.

Mothers who had no known problems during these pregnancies had a higher incidence of "on time" deliveries; whereas mothers who claimed pregnancy complications had a much higher incidence of **early** deliveries and a slightly higher incidence of **late** deliveries (Table No. 7).

Table No. 7
Complications of Pregnancy and Length of Gestation
(Recorded in %)

During pregnancy	Baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
No complications	6.24	**76.56**	4.93
Had complications	**14.11**	70.94	**5.29**

Each mother was also asked whether she was hospitalized during this pregnancy **before** labor started. Again, more mothers answered that they were not sent to the hospital, before labor, for any reason, if their pregnancies ended "on time." Those mothers having **"early"** or **"late"** deliveries showed a higher incidence of **hospitalization before** labor (Table No. 8).

Table No. 8
Hospitalization for Complications (before labor), and Length of Gestation
(Recorded in %)

During pregnancy before labor	Baby was delivered: More than 2 weeks early	"On time"	More than 2 weeks late
Was **not** hospitalized	7.44	**75.74**	4.64
Was hospitalized	**12.41**	70.67	**7.17**

Tables Nos. 7 and 8 both point to a definite **relationship** between **complications of pregnancy** and **"early" delivery;** likewise, a lesser relationship, with **"late" delivery** of the babies.

6. Length of Labor:

There is a direct relationship between the length of gestation and the length of labor, more "early" labors being shorter and more "late" labors being longer (Table No. 9).

Table No. 9

Length of Labor and Length of Gestation
(Recorded in %)

	Baby was delivered:		
Length of labor	More than 2 weeks early	"On time"	More than 2 weeks late
0 to 2 hours	**11.67**	68.90	3.93
2 to 6 hours	**8.23**	75.78	4.85
6 to 10 hours	6.12	**78.21**	4.76
10 to 21 hours	6.50	76.04	**6.04**
More than 21 hours	7.02	76.09	**7.77**

The data in Table No. 9 focus attention on the balance between the force of uterine tone and contractions, on one hand, and the resistance of cervical fibrous tissue, on the other hand. Where balance is proper, labor occurs on time and is of reasonable duration. A patient with congenital incompetence of the cervix or hyperirritability of the uterus may expect early, short labors. A patient with uterine inertia or much cervical fibrous tissue or scar may have late, long labors.

7. Type of Delivery:

Table No. 10 reinforces the previously noted (3) relationship between prematurity and breech delivery. Likewise, it is noted again that many "early" babies were delivered by section.

Table No. 10

Type of Delivery and Length of Gestation
(Recorded in %)

	Baby was delivered:		
Type of delivery	More than 2 weeks early	"On time"	More than 2 weeks late
"Normal"	7.32	**76.10**	5.03
Forceps	6.49	**78.30**	5.01
Breech	**26.19**	55.35	5.53
Section	**19.57**	62.04	4.51

8. Age of Mother:

On the basis of gestation and age at delivery, the **lowest prematurity** rates occurred among babies born to the 7,499 mothers in this study who were between the **ages of 20 and 35.** Before maternal age 20, prematurity of the baby at birth was much more common; after 35, it was somewhat more common (Table No. 11). (Maternal age did not seem to modify the number of "late" deliveries.)

Table No. 11

Age of Mother and Length of Gestation
(Recorded in %)

Age of Mother	Baby was delivered more than 2 weeks early
14 or less	28.57
15 to 17	14.18
17 to 20	11.31
20 to 25	**6.97**
25 to 35	**7.28**
35 to 40	8.66
More than 40	10.52

9. Hospital of Delivery:

Based on **length of gestation,** 13 hospitals had **"prematurity rates"** ranging from 10% to 18.57%. Of these 13 hospitals, 3 reported less than 25 deliveries per year; 1 hospital reported less than 50 deliveries per year; 3 hospitals reported less than 100 deliveries per year; 4 hospitals reported less than 300 deliveries per year; and 2 hospitals reported less than 500 deliveries per year.

Six hospitals reported more than 500 deliveries per year. Of these, none had a **"prematurity rate"** above 10%; the lowest was 6.79%. The average was 8.84%. These lower rates were achieved by the larger maternity sections despite the fact that patients with known serious complications would tend to gravitate toward them.

10. Miscellaneous:

No significant trends could be noted concerning the **length of gestation** when compared with:

a) Mother's years of schooling

b) Husband's occupation

c) Mother's place of residence

d) Distance mother lived away from her doctor.

Note:

This is the fifth in a series of reports concerning the South Dakota Prenatal Care Study of 10,606 mothers. The next report will concern the **condition** of neonatal babies. Subsequent reports will deal with maternal complications.

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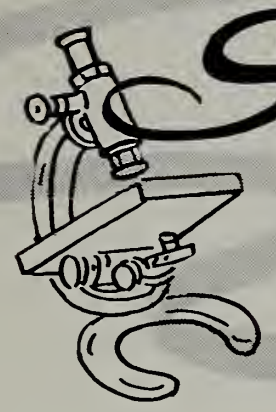
"Upper respiratory infection! I thought everything was a 'virus' these days?"



Scientific PAPER

CERVICITIS AND BENEFITS FROM CAUTERIZATION

FRANK W. PEYTON, M.D.
Lafayette*

Thirty years of private gynecologic practice have revealed chronic cervicitis to be among the most overlooked and neglected gynecological conditions existing. Cervicitis is responsible for many aggravating disturbances and disabilities and, I am convinced, even death of many women.

It is first necessary to define what cervicitis means in this presentation. It refers to the condition of any cervix which by close inspection exhibits mucus glands on the ectocervix or shows the os open with excessive glands.

Emphasis must be placed on close inspection, i.e., having good speculum exposure, a proper light and, most importantly, by removing the mucus which too frequently masks the lesion. The latter is best done by applicators dipped in Negatan (a solution of metacresol sulfonic acid with formaldehyde made by Eli Lilly & Co.) with thorough cleansing of the ecto- and endocervix. The area is then dried with dry applicators. Under such scrutiny, one finds a noteworthy incidence of cervicitis. Around 20% of nulliparas and up to 90% in the parous are realistic percentages. Cervicitis quite often is found when there are no symptoms whatsoever and casual inspections frequently overlook the condition.

The causes of cervicitis are not altogether known but definitely the stretching or trauma of dilatation such as occurs in deliveries, abortions and operative dilatation play their part, as well as infection. Another cause is hormonal influences which provoke the growth of columnar cells from within onto the ectocervix. In the younger woman or girl, we have called it "congenital erosion or ectropion." I am convinced that the hormonal effect of the contraceptive pill, if not initiating the cervicitis, frequently aggravates the condition. Irritants such as douches and tampons can also be listed as causative factors.

Treatment

Treatment of cervicitis is the destruction of the excessive glands previously described. Simple linear office cauterization is preferred, except in the occasional marked lesion which should be coned. Spontaneous healing rarely occurs. Daily douching for months, instilling vaginal creams, or attacking superficially with chemicals such as silver nitrate or acids are practically useless. I must emphasize the importance of obtaining a recent negative cervical cytology report before any cauterization is performed.

When to cauterize is as important as how. The recommended time in the menstrual cycle is one to three days after a normal flow, so that there will be three weeks of healing prior to the next flow. If cauterization is performed later in the cycle, one can create or flare up a pelvic inflammatory disease or have excessive bleeding at the slough-time or during the first few days

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of the next menstrual period. Following the second post-partum period (which is three months after delivery) when the uterus is well involuted and one is sure that the flow is a bona fide menstrual flow, is an ideal time. It is the responsibility of anyone doing obstetrics to include this as part of his care. Three or more months premaritally (of course, following a period) is good practice. Any time postmenopausally is accepted. The DON'Ts I wish to emphasize are: Never cauterize if cytology is positive; never cauterize before a period, during pregnancy, or if the patient is nursing or taking "the pill." Healing is most unsatisfactory in absence of her own estrogen or also in an excess of progestin. Acute cervicitis, vaginitis or pelvic inflammatory disease are additional contraindications to cauterization.

The importance of patient-physician communication must be stressed to assure patient cooperation in returning at the correct time for treatment. This may be best handled by an informative sheet given to the patient at the time the diagnosis is made. I have found that a supplementary one-page descriptive bulletin on cervicitis given to the patient while discussing the disease with her is most helpful. She has this bulletin to refer to later. It reads as follows:

CERVICITIS

What it is, and how it is treated.

The lower end of the uterus (womb) is called the cervix, and it extends into the upper portion of the vagina. The cervical canal carries the menstrual period flow from the uterus into the vagina, permits entrance of the sperm, and dilates in labor for delivery at the end of pregnancy. The lower visible portion of the cervix is smooth and without mucus glands, while its canal is lined with mucus glands. The common general term "cervicitis" is the condition where the glands have spread out from the canal to an excessive degree and have become inflamed. Cervicitis is very common and many women suffer in silence. This is occasionally seen in early puberty, frequently following the stretching associated with delivery, and unfortunately when exposed to infection or irritants such as douches and internal tampons. These mucus glands harbor bacteria, making the cervicitis more pronounced, and many symptoms result; also, cervicitis is a potential source of development of cancer.

Frequently following a pelvic examination, I make one or more of the following statements:

"The annoying discharge is coming from the cervix.

"The irritation of the outer genitals or soreness of the vagina is aggravated by the unhealthy condition of the cervix.

"The chances for conception will be better if the cervix were healthier.

"Lower abdominal pain will leave and is less likely to recur when the infection in the cervix is gone.

"Menstrual disturbances are less likely to happen if the cervix is as it should be."

You realize, therefore, that I consider a healthy cervix most important and that it should be kept healthy and show no signs of cervicitis.

Linear cautery is the only treatment. It converts the cervix described above back to a normal smooth clean-appearing organ by burning away or destroying the diseased area on the cervix with an instrument. Streaks are made on the cervix causing slight menstrual-type cramping. An anesthetic is not required, since there is usually no sharp pain and it takes but a few minutes to do. This diseased area then heals in a most gratifying fashion correcting the conditions I describe above. One is not incapacitated by cervical cautery and the usual activities are permitted. Special medicine is used in the vagina to hasten healing. There may be some bleeding during the healing period but less than menstrual flow. A checkup examination two months later is wise.

It is important that the cautery be done immediately (one to three days) after the flow of a normal period stops. In this way there will be several days of healing before the next flow. Please call the first day of your menstrual flow to make your cautery appointment. In addition to the improvement of other complications previously mentioned, cautery has helped many women for whom marital relations have been difficult. Before applying cautery treatment, I check for cancer in all my patients over the age of twenty-five. Once a cervix is cauterized, it most likely remains healthy. No wonder I am an enthusiastic advocate for keeping the cervix clean and healthy.

The technic of office cauterization is as follows: The cervix is exposed and the mucus is removed with Negatan. Linear cautery is implemented by the use of the National machine. The tip is heated until it glows and the entire involved portion deeply seared radially or spokewise. It is important to extend the spokes into the cervical canal to destroy the endocervicitis, as well as over the mucus glands on the ectocervix. The vagina widely opened with a

large speculum, cleansing and drying the cervix as previously described, and taking one's time all lead to less pain and a cooperative patient. Written instructions should be given the patient following cauterization, as:

CERVICAL CAUTERY
PLEASE READ AND FOLLOW
THESE INSTRUCTIONS

1. Insert an applicator 2/3 full of vaginal cream into the vagina at bed-time each night for two weeks. Wearing a pad is advisable.
2. Strenuous activity, any long trip over 100 miles, or intercourse may cause bleeding or pelvic pain the first four days following cautery, therefore, should be avoided.
3. Slight bleeding or spotting may be expected following cautery, especially from the 10th to the 14th days. Sexual abstinence is wise again during this period.
4. If bleeding is more than a menstrual flow or pelvic pain appears, call the office. Continue using the vaginal cream even though bleeding or having discomfort.
5. The next menstrual flow usually occurs according to its normal cycle, but it is not uncommon for it to appear earlier and last longer.
6. A check of the cervix should be made following the second or third period. Please make an appointment then.

A check in two to three months following cauterization will, 90% of the time, satisfy you that the cervical lesion is eradicated. One good cauterization usually lasts a lifetime.

Benefits of Cauterization

The first benefit to be listed would be the removal of excessive vaginal discharge or leukorrhea. I believe that "possessing a wet bottom," having a foul discharge, carrying around a soaked vulva with unresponsive mucosa is not desired by any woman. Too many are suffering needlessly in silence by thinking that excessive discharge is an expected part of being a woman or because they have been told they will outgrow it. Some mucus, especially that from the Bartholin glands or from the cervix at ovulation, is physiological and desirable.

The second benefit is the safeguard against vaginal and vulvar infections which would otherwise result from the alkalinity of the excess cervical mucus of cervicitis. Of 1,300 of my patients with vaginitis, 75% were associated with cervicitis. Patients followed for an average of five years following cauterization had an incidence of 12%.

Third, higher fertility can result by removing the hostile mucus. The presence of cervical factors adversely affecting sperm motility and progression has long been postulated. Forty-five percent of 185 infertility patients (where tubes, sperm and ovulation were not at fault) conceived within nine months after cauterization.

Fourth, less pelvic inflammatory disease is found in the cases which have a cauterized or clean cervix. Seventy-nine percent of my 458 patients with pelvic inflammatory disease had cervicitis. These were women with pelvic pain and tender adnexa (without history and/or findings of endometriosis). Leukorrhea, low backache and dyspareunia may have coexisted. A recurrence of pelvic inflammatory disease is most unlikely in the healthy cauterized cervix. (A goodly number of patients suffering from dysmenorrhea have a "congenital erosion" and are helped by cervical cauterization.)

Fifth, the boggy infected cervix is no place for an intrauterine contraceptive device (I.U.D.) I am not really enthusiastic about any one contraceptive method. I have incriminated "the pill"as it has a multitude of unpleasant or deleterious effects. The diaphragm still has its place as does the I.U.D. but only in a healthy cervix. Not only is the I.U.D. held in place better with a healthy cervix but there is less spotting and ascending infection.

Lastly, but by no means least, the value of treatment by cautery is the prevention of carcinoma. "One cauterization in a lifetime would be greater protection to a woman than a Pap smear done twice annually." This is a statement of the chief statistician of the American Cancer Society.[1]

The basic solution to the major problem of cervical cancer is in its prevention. The solution does not lie in the treatment of the neoplasm nor with early detection by Pap tests or biopsies, but by destroying cervicitis. However, as a follow-up, the woman in my practice with a cauterized healthy cervix, without genital symptoms and a negative family history for cancer, now gets a Pap test once every three years.

The validity of my remarks in this discussion is based upon an I.B.M. computer analysis of case histories of my 10,500 patients who were classified as cervicitis cauterized, cervicitis not cauterized and those with a presumably healthy cervix. This study "Cervical Cauterization and Carcinoma of the Cervix"[2] was presented to the Central Association of Obstetricians and Gynecologists meeting in Dallas in 1962.

For the sake of summary, let us remember: Search for cervicitis by good exposure, cleanse with Negatan, destroy the glands with deep cautery, follow-up with Sultrin, and then be pleased, a few months later, with a healthy cervix.

I believe that greater emphasis should be placed on the cauterized cervix as a deterrent to the development of cancer. Less pelvic inflammation, less vaginitis, and improved fertility are likely when this simple office procedure is followed. Let us not overlook, ignore or fail to treat this common condition.

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FEP ENROLLMENT INCREASES

During November, Blue Shield and Blue Cross enrollment among Federal employees increased a net of 4,954 contracts and 12,964 participants. Thus, the Federal Employee Program enrollment in Blue Shield and Blue Cross totaled 1,437,116 contracts and 4,488,228 participants.

DEATH RATE FOR MOTORCYCLE RIDERS HIGHEST EVER

The death rate for motorcycle riders was more than 20 per 100 million miles of travel during 1966, according to the National Safety Council. In comparison, the 1966 mileage death rate for all motor vehicles was 5.7. Head injuries accounted for two thirds of all deaths in motorcycle accidents.

BLUE SHIELD AND THE FUTURE

Dramatic improvements in clinical medicine and the cost of health care are two areas that will be watched with great interest by the public in the future, according to John W. Castellucci, president, National Association of Blue Shield Plans. Citing the dramatic heart transplants by Dr. Christian Barnard, Castellucci said he believes people "will become more aware of the need for extended care coverage as sophisticated, life-saving, but costly, procedures become a reality." He urged physicians and Blue Shield to work together to iron out the problems so that the cost of health care protection will "not leave the reach of the vast majority of Americans."

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HOMOSEXUALITY IN GYNECOLOGIC PRACTICE

Irving C. Bernstein, M.D.

The term homosexual is defined as a person attracted sexually to others of the same sex. These individuals, when functioning in their way of life, rarely become a problem for the general physician, but they do consult a psychiatrist when they are involved in a triangle. A triangle is complicated enough in heterosexual life, but is even more so in the homosexual sphere. Homosexual pairs are extremely jealous of each other. When involved in a triangle, the confirmed homosexual is only concerned with the troublesome episode and does not want his basic problem treated. This makes the psychiatrist's task easier because an emotional symptom overtly pleasurable to the patient is difficult to eradicate. A similar example is alcoholism.

The gynecologist or general physician is usually not involved in the management of the classic homosexual. A few patients may consult him after an isolated, overt homosexual experience. If simple reassurance and ventilation does not alleviate the anxiety, the patient should be referred to a psychiatrist. The majority of patients consulting the gynecologist or general practitioner with problems basically homosexual in nature, are probably not recognized as such. Some representative cases and general principles of management will be discussed.

A relatively common area in which a homosexual problem may present is the area of infertility. After an infertility investigation is completed with no organic findings being found to explain the infertility, some doctors recommend psychiatric consultation. One interesting case involved a manufacturer's representative for a baby formula, who admitted being an overt homosexual at the first interview. After the problem was discussed, the infertility study was discontinued. With this problem verbalized, the couple was able to enjoy their marriage without feeling the need to have children. This adjustment exemplifies the often used statement that a good marriage is a successful neurotic adjustment.

Infertility presents at times as a non-consummation of marriage problem. A minister and his wife were referred because of infertility related to the husband's inability to consummate the marriage. Psychotherapy was intensive with him and finally the basic problem emerged. Just as he was about to insert his penis into his wife's vagina the thought came to him that this was his mother. His mother had slept with him, and not his twin, until he was fourteen, when he refused. Subsequently, he had a few relationships with men but became so guilty he discontinued. He matriculated in a Seminary, met a daughter of a professor, and married. He always felt overwhelmed by her, just as he did with his mother. Because of external pressures, they felt they must have a child, and instituted adoption proceedings. One agency rejected them; another accepted them, obtained a baby for them, and now they are really having difficulty. In many cases of non-consummation of marriage, a common finding is obtained. These

men during courtship and engagement were "always gentlemen" and never made advances as other men did. These women married these passive, feminine men so as to protect themselves from usual male sexuality.

Another couple was referred after a negative infertility investigation. The wife complained of her husband's impotence and coldness. He explained he found it difficult to have intercourse in his parents' home. He thought his impotence would disappear after graduation when they expected to move into their own home. Subsequent to this interview, the wife missed her menstrual period. She eventually mentioned the threat of having to visit a psychiatrist had forced the husband into having intercourse, which resulted in a pregnancy. Soon after this pregnancy, another occurred. The wife became depressed and reinstituted psychiatric interviews, as did her husband. He stated he could no longer tolerate living with her, and she complained his coldness and aloofness had worsened. The basic psychopathology was elicited in subsequent psychotherapy. It was obvious that the husband was a very passive, feminine-oriented person. His wife was a driving, masculine woman. The couple are now in the process of obtaining a divorce. The obstetrician now realizes it would have been best if this couple had remained childless.

A very dramatic case is one of a patient being referred by a gynecologist because of perineal itching. The itching had already resulted in the patient having vulvar surgery, with no relief of symptoms. She came for the interview and eagerly talked of her problem, including infertility, presumably related to the husband's low sperm count. They had adopted two children. In their courtship, the husband had continually intimated to his peers when leaving fraternity parties early, that he and his girl friend "had important things to do." The girl was continually disappointed, since he rarely even kissed her. At marriage, they were both virginal. Even more upsetting to her, after marriage, he rarely attempted intercourse, and besides, explained to his peers that the reason a pregnancy had not occurred was because his wife was frigid and would not permit intercourse. Neither before nor after marriage was she ever able to defend herself. Most of their sexual life involved mutual masturbation, which, incidentally, the wife was not adverse to. Coincident with psychotherapy, the wife forced her husband out of their home because he openly became interested in another woman. A few weeks later, he proudly told his wife he had impregnated her. It was suggested to him that possibly she was pregnant by someone else, but he emphasized the girl's loyalty to him. His ego was inflated by the pregnancy. This is the "Don Juan" presenting in an unusual manner. Usually "Don Juans" deny their homosexual feelings by being very active with members of the opposite sex.

Another case involving mutual masturbation, which is an example of infantile sexuality — a kind of homosexuality — came into psychiatric treatment in an unusual manner and was treated by an Army medical officer, prior to his becoming a gynecologist. A Chaplain's assistant was attending a lecture by his Chaplain and heard that masturbation was a terrible sin. This disturbed the patient because he and his wife had been involved with mutual masturbation since marriage. A few days later he became overtly psychotic. Because this patient was so immature, this doctor's goal was to return the patient to the status quo ante. It was obviously better for this couple to not have children. Mutual masturbation for them was a good defense mechanism. If this couple had applied for adoption and been studied by competent investigators, they would have been rejected. It would be ideal if all couples could be psychiatrically evaluated before an infertility study is instituted. Also, a physician should not regard every request from a couple for a baby as a command, or as a test of his own prowess or ability.

One patient was referred because she demanded that her obstetrician deliver her without arm restraints in the delivery room. Besides, she was depressed because she had previously delivered two monsters — one after a craniotomy. She was concerned she might have a third. Therapy of over two years was very beneficial in many respects. During this time, she delivered two normal babies by means of "natural childbirth," without being restrained. During psychotherapy she stated that until just before her referral, she and her husband were well satisfied with their sexual relationships. This satisfaction then deteriorated because he no longer "made" her participate in unusual sexual activity prior to vaginal intercourse. He enjoyed this "voyeurism." As a result of this change, she no longer reached orgasm. After two years of psychotherapy, many aspects of their life improved, but the frigidity remained. Just before termination, she suggested that hypnosis be attempted. This was done reluctantly, since hypnosis is usually not helpful for chronic symp-

tomatology, but surprisingly enough, after the hypnotic trance, she again had orgasm. She was taught self-induction. This effect resulted from the fact that in the hypnotic state, she was performing for the psychiatrist, as she previously had for her husband. She would come in periodically in order to reinforce her ability to hypnotize herself. Both of these patients had unusual sexual histories indicative of latent homosexuality.

An interesting case came for study in an unusual manner. A gynecologist referred the distraught husband of one of his patients who had recently delivered. His thoughts were confused, circumstantial, and rambling. After examination, it was clear that he had a Manic Reaction, which resulted from guilt feelings over some recent homosexual activity. He had told his wife of some of his activity, but she was not disturbed. He was treated with electroshock and psychotherapy, and recovered. The following statement explained her feelings about the situation: "Although I have always known my husband to have some homosexual tendencies, I don't care. This way, I am sure no woman will get him away from me." This attitude made treatment more difficult. Her acceptance of her husband's psychopathology was related to her own latent homosexual tendencies, which she denied by being provocative to passive men. She had been engaged to an overt homosexual previous to marriage.

Socially, male homosexuality is strongly taboo. Female homosexuality is mostly overlooked. Rudimentary and half-veiled female homosexuality, executed via kisses, embraces, caresses of "harmless parts of the body" is both widespread and socially acceptable, while there are strict social rules against such contacts among men in our Western civilization. Little attention is aroused when two girls live together, but two young men sharing an apartment are open to unflattering innuendos.

A greater percentage of homosexual women marry than homosexual men because women are brought up to marry and have children as their main purpose in life. Many of these women are adverse to intercourse, but this is acceptable in our culture while impotency in men is not.

Even though there is some acceptance of homosexuality in women, the problem remains and defenses or symptoms such as frigidity present themselves. Other presenting symptoms include some of the usual gynecological symptoms of dysmenorrhoea, pruritis, non-consummation of marriage, and anxiety. All the patients who present with these symptoms are not homosexuals with problems, but some of them are.

A young single nurse, complaining of severe headaches and pelvic discomfort of long duration, especially at the time of the menses, consulted a gynecologist. He found no abnormalities, and reassured her. This was not helpful. Reassurance, at times, is not therapeutic, and can be harmful. She, on her own initiative, decided to consult a psychiatrist. On examination she was insecure, relatively unattractive, masculine, and depressed. Soon after the interviews began, she talked of her overt homosexuality, which had started in nurse's training, and had continued since. A few years earlier, she became severely depressed when one of her partners married. The present symptoms were precipitated by the plans of her present partner, a student nurse, to leave the city with her parents after graduation. Her problem was further complicated by the guilt feelings she had because of her sexual activity and because of what she thought was her church's attitude towards it. Therapy was directed towards the relief of her depression. The partner gave up her plans to leave. Together they moved to California, where they are making an adjustment. The patient was referred to a psychiatrist there for supportive care.

An attractive girl of twenty was referred by a gynecologist because of intractable dysmenorrhoea. During psychotherapy, some interesting facets of her life presented. She had been engaged four times. Each engagement was broken just before the scheduled marriage. It was clear that she had a need to seduce boys into attempting sex relations and then she would stop any further activity. This reassured her of her femininity, and denied her homosexual feelings. Analogous is the behavior of "Don Juans" who try to seduce one woman after another. Treatment continued. The dysmenorrhoea became less bothersome and her self-acceptance increased. When she terminated therapy, she had less need to take advantage of men. Individuals, similar to this one, if attractive enough, may marry and divorce a number of times.

A most complex case has been progressing for many years. A distraught husband was referred by his family doctor because his wife had suggested divorce because she was in love with their maid. The wife had been complaining of frigidity for years. She had divorced her first

husband because of his mental illness. The current husband had met his wife at a dancing school, where she was an instructor. He became infatuated with her and within a short time, married her, although she was older than he, had two children, and was of a different religious faith. In a relatively short time they had three children together.

The wife entered into psychiatric treatment and over a matter of many interviews, the marriage improved considerably. They are still married, and externally, very much "in love." During the interviews, some unusual information was uncovered. The homosexual maid had not only had homosexual relationships with the wife, but with the wife's mother-in-law. In addition, she had had sexual relationships with the wife's husband, his brother, and their father. What had precipitated the threat of divorce was the fact the mother-in-law became aware of the relationship between daughter-in-law and the maid, and was trying to break it up. The wife was trying to maintain her relationship with the maid by leaving with her. Subsequent to the institution of psychotherapy, the maid was sent to California, and was killed in an accident on a freeway. What was reported as an accident might have been a suicide. There are more facets to the story. One of the wife's children was unable to get along with his step-father, and was sent to a private school, where he was expelled for homosexuality. He is now in a foster home and has had numerous difficulties with the law.

In therapy, the husband discussed his relationships with his brother many times. They are business partners. He stated his brother had been married twice and in his present marriage spent many nights away from home with other women. The husband and wife as a result of psychotherapy, appeared to get along so well that the brother instituted psychiatric treatment when his marriage began to deteriorate. His wife would no longer tolerate his extramarital activities. She previously would have his shoes shined and his clothes put out for him "on his nights out." His Don Juan behavior stemmed from his doubts as to his masculinity. He remembers always being afraid, and still is afraid, that his penis was not as large as others. His wife, also in treatment now, has many symptoms which indicate she had doubts about her femininity. She is concerned about her breasts being too small, and she has dysmenorrhoea. Both men in therapy remembered being puzzled by their mother's sleeping with one maid after another.

A situation in which the husband states emphatically, or demands that he be allowed in the delivery room or operating room when his wife delivers, or is operated upon, should arouse suspicions of mental illness. One dramatic case has finally terminated; another one may still be a problem. In the first case, the husband came to an obstetrician's office along with his wife, who was complaining of abdominal pain. He demanded that he be in the office while the examination was being performed. This privilege was granted. A culdoscopy was scheduled for a few days later in a local hospital. The husband demanded he be there. He was told the rules of the hospital would not allow his presence. Nevertheless, at the time of culdoscopy, he pushed past a nurse and burst into the operating room. The surgeon decided, and correctly so, to allow this intrusion. A questionable finding was noted at culdoscopy. The patient was referred to University Hospitals ostensibly because an operating room is available with a glass ceiling for observers. At the University Hospitals, a diagnosis of ambulatory paranoid schizophrenia was made on the husband. Many authorities feel the basis of paranoid schizophrenia is homosexuality. It was recommended that he not be allowed in the operating room if and when his wife was operated upon. Psychotherapy was instituted and the patient became very dependent upon the psychiatrist. The day of the surgery, he was very agitated and demanded he be allowed to observe (this is a kind of homosexuality — voyeurism) but this privilege was refused. At surgery, no pathology was found to explain her symptoms, which had been predicted by some observers. The patient and his wife were told the facts. The case was ended a few months later, when the husband drove his business car into a tree, and was killed. It is likely that this was suicide, but there is no definite proof. Their child is now under the care of a child psychiatrist.

A somewhat similar case is one of a patient referred to the University Hospitals for obstetric care along with the information that her husband would allow her to be delivered only by a female physician. The obstetrical department was advised not to accede to this request. The patient was told this. Then she volunteered the information that her husband was under the care of a psychiatrist at the University Hospitals. Information from the chart revealed he

was being treated for paranoid schizophrenia. The wife was advised to have her husband committed. She refused at first, stating, "If I do, he will kill me later." This he had threatened before. With considerable persuasion and help from Social Service, the husband was committed to a State Hospital, and the patient went through the delivery without complications.

A request, particularly an urgent one, by a husband that he be in the operating room or delivery room, is suggestive of emotional illness until proven otherwise. In the experience of the University of Minnesota Obstetrics and Gynecology Department, most men making this request have been diagnosed as being psychiatrically ill, and have some difficulty in the sexual sphere.

To recognize the homosexual and/or mental illness in gynecologic practice, the possibility of such a diagnosis must always be considered by the physician. To establish the diagnosis, the physician must always determine what the particular symptom involved means to the patient, and what is the symptom's basic etiology. This is comparable in all respects to organic medicine. For example, a patient was recently referred to the University Hospital with a lesion on the vulva that had not healed with local treatment. A resident considered the possibility of syphilis and obtained a dark field examination. Spirochetes were found. The correct diagnosis was established and proper therapy was instituted.

Patients present to the gynecologist or family doctor complaining of infertility, dysmenorrhoea, frigidity, marital incompatibility, or a host of other gynecologic symptoms. If only the symptom is treated without considering what the symptom means to the patient, and without considering the personality of the patient, the physician is not doing all that he should.

Therapy of the covert, as well as the overt sexual deviate is not easy for any therapist, including the psychiatrist. Therapy for the sexual deviate recognized by the gynecologist includes making definite decisions. This varies from deciding to discontinue infertility investigations, to immediate referral to a psychiatrist. In all cases, the doctor should be accepting, understanding, non-critical, and alert that he does not let his own biases and feelings affect his medical judgment.

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*As shown by *in vitro* studies.
1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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Scientific PAPER

SOME APPARENTLY COMMON PROBLEMS IN PATIENTS RECEIVING CONTRACEPTIVE PILLS

Philip Ball, M.D.*

TEXT

This article is in the nature of a warning to physicians prescribing the so-called contraceptive pills whether for the purposes of pregnancy prevention or for the treatment of gynecologic disorders including dysmenorrhea, endometriosis, dysfunctional uterine bleeding, menstrual irregularity, etc. It is felt that the side effects of depressive symptoms and also malaise, fatigue, tension, lack of libido and acceleration of vascular type headaches during administration of these pills is a more frequent problem than believed by most physicians. This article is based on an unscientific sampling of some 30 cases recalled "out of thin air" from an internist's office practice. It is believed that the symptoms concerned are intangible enough that they would not be well identified in a mass survey — particularly if this were of a population in a backward "test country" or a population group which was only casually or superficially surveyed. It is also true that the symptoms are common enough in any case so that perfect proof of relation of the symptoms to contraceptive medication is not easy.

The author has also seen several cases of thromboembolic disease and several cases of erythema nodosum in patients on contraceptive pills, but feels that these are infrequent problems as compared to those which are the concern of this article.

*Member of the Department of Medicine and the active staff, Ball Memorial Hospital, Muncie, Indiana.

Following are a few illustrative cases.

REPORT OF CASES IN WHICH CONTRACEPTIVE MEDICATION HAD SEEMED TO BE PROVOCATIVE OF MAJOR SYMPTOMS

CASE 1. Patient was first seen 2-13-65 complaining of headaches occurring in cyclic fashion, severe in nature, and often accompanied by nausea, vomiting, and photophobia. Patient had been on norethynodrel with mestranol, 5 mg., (Enovid) for some three years. Treatment as for migraine was carried out. On 9-23-65 the patient was seen complaining of symptoms of depression and tension of several years duration. The patient also stated her migraine had been severe for several years. Again it was noted she had been on norethynodrel with mestranol, 5 mg., (Enovid) approximately three and one-half years. At this time the patient was advised to take a vacation from her contraceptive medication and use some old-fashioned technique for pregnancy prevention. The patient was next seen on 2-24-66 and she stated that the depression, tension and migraine headache seemed to abate promptly when the contraceptive pill was stopped. The patient stated that until she had quit the contraceptive pill she felt that "I had made a mistake in my marriage or married the wrong man or marriage was not for me" and the patient stated that now she was "happy, marriage was wonderful and I had no idea it could be this wonderful." The patient was last seen on 7-8-66 and was continuing to feel quite well and had no complaints.

CASE 2. The patient was seen on 7-22-65 complaining of fatigue which had been present for a year and some intermittent depression which had been present for one year. She had been on norethindrone with mestranol, 2 mg., (Ortho-Novum) for one and one half years. No physical problems were identified on complete examination and she was advised to stop the contraceptive and a few doses of desipramine (Norpramine) 25 mg. four times daily were given for a few days. The patient was next seen on 8-21-65 feeling very well in all respects. She stated she was "better than in a long time. Everybody notices it." She was advised not to resume the contraceptive medication.

CASE 3. The patient was seen on 9-29-66 complaining of being "run down, grouchy and irritable" since October 1965. She also complained of chronic fatigue and loss of normal libido. She had been on chlormadinone with mestranol (C-Quens) since October 1965. She came to me at the insistence of her husband. She was advised to stop the contraceptive pill. No other medication was prescribed. When seen one month later she had no residual complaint.

REPORT OF CASES IN WHICH THE PATIENT SWITCHED FROM ONE OF THE OLDER FORMULA CONTRACEPTIVE MEDICATIONS TO ONE OF THE SO-CALLED SECOND GENERATION TYPE SEQUENTIAL CONTRACEPTIVE PILLS

CASE 1. The patient was seen on 8-30-66 complaining of headaches which had been quite frequent for six months. They often occurred as often as three times per week. They were usually right sided and often associated with some scotomata and nausea. She also complained of some mild depressed feelings during the previous 12 months. Interrogation about medication revealed that the patient had been on chlormadinone with mestranol (C-Quens) for the past 12 months. Prior to that she had been on norethindrone with mestranol (Ortho-Novum) for nine months and prior to that had been on norethynodrel with mestranol (Enovid). It would appear that the sequential type had been associated with the period of the greatest symptomatology.

CASE 2. This patient according to her statement was begun on norethynodrel with mestranol, 5 mg. (Enovid) in January 1965. She was married in February 1965. On 5-19-65 she consulted me complaining of fatigue, irritability, depression, and frequent generalized headaches.

She was advised to take desipramine (Norpramine) 25 mg. three times daily after meals. On 5-29-65 she stated she felt somewhat improved. She was advised to stop norethynodrel with mestranol and start chlormadinone with mestranol (C-Quens). When seen on 9-30-65 she stated she was somewhat improved in reference to the depressed feelings and headaches. She discontinued all contraceptive medication in January 1966 in order to become pregnant.

REPORT OF CASES IN WHICH CONTRACEPTIVE MEDICATION SEEMED TO BE AGGRAVATING AN ALREADY EXISTING DEPRESSIVE PROBLEM

CASE 1. This patient had had hospitalizations for neurotic symptoms and depressive reactions as far back as 1958. This condition was severe enough to require care under a psychiatrist in a psychiatric unit. She continued to be troubled with various emotional symptoms especially those of depression periodically. The symptoms seemed to be considerably accelerated between 1962 and 1966 and she was during this period of time almost constantly under psychiatric care with multiple drugs, group therapy, discussion therapy, etc. History was given to me on 7-2-66 by the patient that she had been on contraceptive medication since 1962. She took norethynodrel with mestranol (Enovid) from 1962 until 1965 but discontinued it because of "constant vomiting." She was next put on norethindrone with mestranol (Ortho-Novum) by another physician and took it for approximately one year but discontinued it in February 1966 because of an increase in headaches which she was convinced had been caused by the drug. Emotionally the patient has been better since February 1966 when all contraceptive medication was discontinued.

CASE 2. This patient had been under psychiatric care for some six years for presumed schizophrenic reaction marked chiefly by depressive symptoms. At her request she was started on norethynodrel with mestranol, 5 mg. (Enovid) as a contraceptive measure on 4-1-64. The treatment with this drug was marked by considerable breakthrough bleeding, nausea, increased fatigue and breast soreness. She continued with this medication however and on 3-5-65 was complaining of severe headaches. She stated that headaches had been recurrent since age 18 however they had been much more frequent in the past eight to nine months. They were usually of generalized pounding type with

blurred vision, nausea, dizziness, etc. During this period of a year the patient was in and out of a psychiatric unit on several occasions. Her depressive symptoms were much more marked. In the latter months of 1965 the patient discontinued the medication on her own advice because she was convinced it had aggravated her depression. She has been somewhat improved since that time.

REPORT OF CASES IN WHICH CONTRACEPTIVE MEDICATION SEEMED TO HAVE BEEN PROVOCATIVE OF MAJOR SYMPTOMS BUT THE PATIENT WOULD NOT DISCONTINUE MEDICATION

CASE 1. This patient was seen on 6-2-66 complaining of weight gain of 15 pounds in eight months, also of sluggishness, tiredness, tension and depression especially in the preceding eight to 12 months. The patient had been on norethynodrel with mestranol, 2.5 mg., (Enovid) since November 1965. The patient also stated that since the taking of this medication she had been sexually disinterested. Complete physical examination was entirely negative except for chloasma. The patient was advised to stop the contraceptive medication because of multiple probable side effect problems. The patient stated that this was impossible. She said that both she and her husband would not be satisfied with anything less than 100% assurance against pregnancy. She stated that she and her husband (both of whom were 23 and had been married one and one half years and had one child) did not wish any more children "ever." The patient said that unless I could see that her husband was operated on to render him sterile she could not under any circumstances discontinue the pill no matter what it caused inasmuch as no other measures would offer 100% assurance against pregnancy.

CASE 2. This patient began norethindrone with mestranol (Ortho-Novum) in June 1964. When seen on 9-29-66 she stated fatigue had been constant since the Fall of 1964. Also she had gained considerable weight and felt herself to be 25 pounds above desirable weight. She also had chloasma. She wanted to lose weight, then discontinue the contraceptive, and have another baby — in that order. She felt that she couldn't lose so long as she took the contraceptive pill and couldn't afford to get pregnant as overweight as she was. When last treated elsewhere, previously, she had been told to continue the birth control measure and take an anorectic pill, diethylpropion hydrochloride (Tenuate). So, I saw her as a female who was fat, fatigued, pigmented, infertile and confused as to what to do next. I told her to stop all pills — but she remained fearful and dubious when last instructed.

REPORTS OF CASES IN WHICH CONTRACEPTIVE MEDICATION HAD POSSIBLY BEEN THE CAUSE OF MAJOR SIDE EFFECTS AND FOR WHICH THE PATIENT CAME TO A DOCTOR TO HAVE THE MEDICATION STOPPED BUT HE WOULD NOT

CASE 1. Patient was first seen on 8-28-66 in the psychiatric wing of a general hospital. The patient had been admitted for tension and depression symptoms which had begun some 12 months before. The patient stated that she had been started on norethynodrel with mestranol (Enovid) some 15 months before — that is about three months prior to the start of the depressive symptoms. A few months after the onset of the depression she consulted the physician who had started the contraceptive medication and asked him if it were possible the pills could be causing her to feel so badly. He advised her it was not possible and she continued the medication for another few months. She then discontinued it on her own advice.

CASE 2. The patient was seen on 7-15-66 complaining of bloating, weight gain of ten pounds in one year, also frequent headaches. These headaches were often occurring twice weekly, were frontal in location and were associated with nausea and vomiting. The patient also complained of lack of energy and a chronic fatigue in the past six months. She had also observed a lack of libido in the past six months. The patient had consulted a physician elsewhere in February 1966 and asked whether the headaches and lack of energy could be related to the taking of norethindrone with mestranol, 2 mg., (Ortho-Novum) which she had been on since approximately July 1965. He told her this was not possible, but she discontinued the medication and when seen two weeks later had already experienced some relief from her major symptoms.

DISCUSSION

It should be pointed out that the author has not prescribed these pills for contraceptive purposes for some two years, hence he is not often seeing these problems in patients to whom he has given the prescription but rather in patients

who have been given the medication by other doctors. It would seem probable that had he continued prescribing these pills for contraception during the past two years he would have had a much more voluminous series of cases to report.

All of the side effect symptoms mentioned in this article are mentioned in contraceptive drug information pamphlets, yet it is not considered unusual that more physicians have not warned urgently of these side actions. It should be pointed out that these medications have been in general use scarcely five years. Yet it took some ten years to realize some of the major drawbacks of long term use of cortisone in rheumatoid arthritis. It probably took 40 years to realize the problems of aspirin usage in people with recurrent duodenal ulcer. Many physicians today are still not well aware of the depressive potentialities of rauwolfia drugs even after 15 years of use of this type drug.

Further it should be pointed out that any morbidity from these pills occurring in a healthy woman for whom they have been prescribed for purely contraceptive purposes is a violation of the medical maxim "Primum non nocere." Such pure contraceptive application of the pill may be in a teenage girl about to be married, who instead of simply getting happily married, gets married and then gets sick. The pill may be applied in a 30 year old happily married woman who simply wants to become infertile and instead becomes infertile and unhappy. The pill may be given to a 45 year old woman who wants to "stay young forever" and has been granted this option by a physician who believes that the contraceptive pill formula given in a cyclic fashion will help her stay youthful, happy, confident, regulated and young forever and ever. Hence there is offered the risk of a drug's morbidity to a woman who has no disease. This is considerably different than offering the risk of penicillin allergy to a woman who has pneumonia, or the risk of digitalis toxicity to a woman who is in cardiac insufficiency, or the risk of pyloroplasty and vagotomy to a woman who has recurrent bleeding from duodenal ulcer. Of course in cases where the contraceptive pill formula is used for treatment of a pelvic disease problem then the morbidity of the drug can be rightly weighed against the morbidity of the disease.

Actually, I don't believe the contraceptive pills are responsible for all of the fat, fatigued, fussy, fluid-filled, infertile, phallus-fearing females in the country. Maybe they are only causing one fourth of these problems. But this is too much.

A peculiarity pointed out is that these pills, when properly used, are essentially 100% perfect insofar as their efficacy in preventing conception. On the other hand their safety is certainly not 100%. The drugs then must be weighed against the use of some other contraceptive modality which may not be 100% efficacious but which is 100% safe in terms of morbidity. It is rather ironic that some women are not willing to trade 100% efficacy for 100% safety. It is unusual in practice to have patients so fiercely in favor of a pill that they will get them from some other physician and take them in spite of strong contrary advice and even in the face of the woman's own adverse experience. On the other hand the writer has been fascinated to see that several women have come into his office recently asking for advice about the stopping of the pill and the starting of some one of the other old-fashioned measures. This picture contrasts sharply with some three to five years ago when his appointment book was often spotted with the names of women coming in to get off the old-fashioned contraceptive program and go on the pill. Tempus fugit.

A minor observation of the author has been that patients having migraine while taking contraceptive medication seem refractory to the usual preventative and treatment preparations for migraine.

Another problem that has seemed to be brought sharply into focus by the considerations of this article has been that of the medical subdivision of the American patient. Certainly the American female patient is staked out in sections in most medical communities; hence the hand that writes the prescription for the contraceptive medication may not be the hand that does the Papanicolaou smear and pelvic exam nor yet the hand that writes the prescription for antidepressant pills and antimigraine drugs. I have observed repeatedly that women will get their contraceptive pill prescription from one physician and when the side effects occur consult another doctor in reference to the problem. This second doctor may not know what, if any, other medicines the patient is taking unless he asks. It is certainly true that the left hand does not know what the right hand does, nor yet what the "pill" is doing.

It is not considered reasonable that there be any mortality or morbidity in a pill used purely for contraception purposes. Medical research

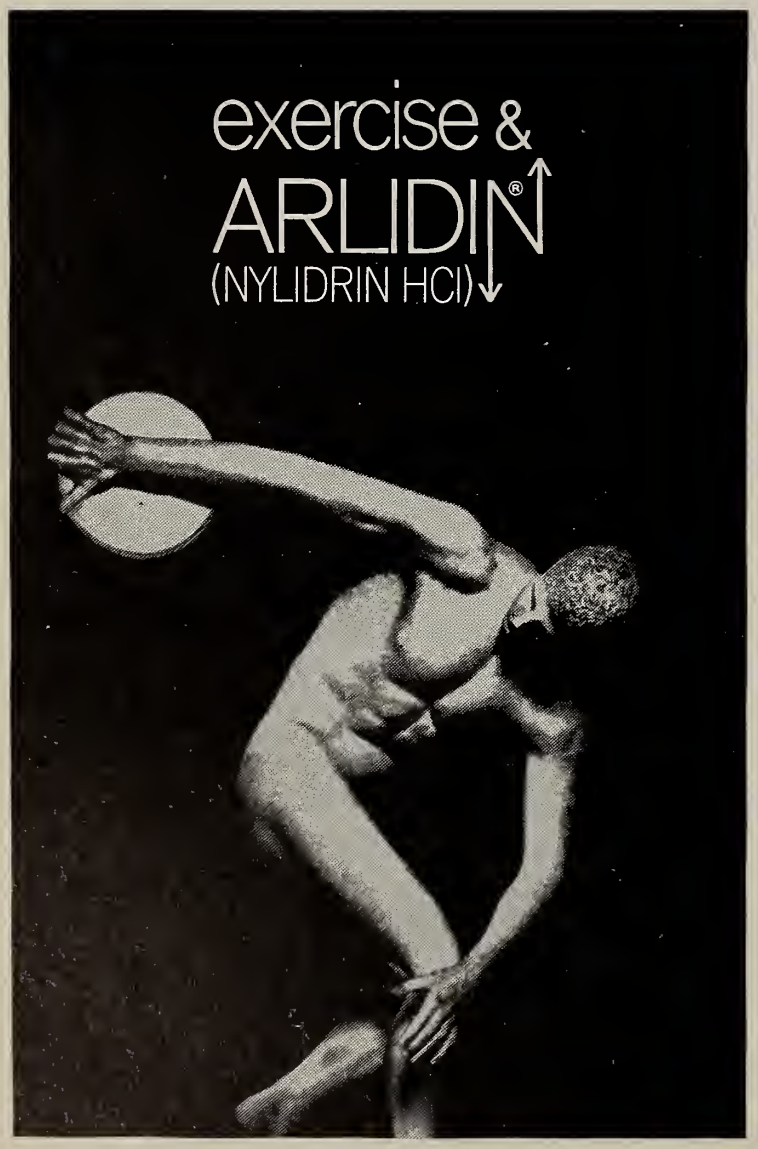
has got to offer something better than this. It is believed that physicians will look back on this contraceptive pill era of the past five years with some embarrassment.

ABSTRACT

In the past two years in his office practice as an internist the author has seen 30 cases of major side effects in patients receiving contraceptive pills. These side effects included symptoms of depression, fatigue, tension, lack of libido and acceleration of migraine type headaches. The author feels that these problems are more common than believed and that physicians should recheck patients on contraceptive type pills carefully at six month intervals using a checklist of the contraindications, warnings, precautions, side action and dangers as listed in any of the literature accompanying the medications themselves or their promotional advertising.

GENERIC AND TRADE NAMES OF DRUGS

Chlormadinone with mestranol — **C-Quens**
Desipramine — **Norpramine**
Diethylpropion — **Tenuate**
Norethindrone with mestranol, 10 mg. — **Ortho-Novum**
Norethindrone with mestranol, 2 mg. — **Ortho-Novum**
Norethynodrel with mestranol, 10 mg. — **Enovid**
Norethynodrel with mestranol, 5 mg. — **Enovid**
Norethynodrel with mestranol, 2.5 mg. — **Enovid**



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Scientific PAPER

AN UNUSUAL WOUND IN VIET NAM

Cpt. Howard Hyde, MC.

The patient, a 20-year-old WM US soldier, was admitted to the 24th Evac Hospital, Viet Nam, on 9 March 1967 with fresh wounds incurred when his patrol was attacked by hostile small-arms fire. The patient had noticed no explosions during the encounter which would suggest involvement of mortars or grenades or mines. The patient suffered a bullet wound of the left elbow and a superficial wound of the right thigh.

Examination revealed no sign of injury except for the above mentioned wounds. There was a skin defect in the left antecubital space and another skin defect between the prominences of the left olecranon and the lateral epicondyle of the humerus. The bullet seemed to have passed through the elbow; however, there was no loss of motor or sensory function of any of the nerves of the arm, and the radial pulse was good. No fracture was seen on X-ray of the elbow.

Fig. 1

The wound of the right thigh (fig. 1) involved only the skin and subcutaneous fat. There were powder burns on the edges of the wound and innumerable grains of unburned gunpowder in the wound*. The ragged base of an M-16 cartridge (fig. 2) with primer intact was found in the patient's trouser pocket. It was surmised that a bullet had struck some ammunition in the patient's pocket, detonating a cartridge and inflicting a superficial wound.

The patient was taken to the operating room on admission where the wounds were debrided under general anesthesia. Bone fragments bearing joint surfaces floated out of the elbow wound during irrigation.

Postoperative progress was satisfactory and on the fifth hospital day the patient was again taken to the operating room where a delayed primary closure of the wounds was performed. Figure 3 shows the wound on the fifth hospital day after removal of dressings and surgical prep; figure 4 shows the wound upon completion of delayed primary closure.

*Powder for this type of cartridge is recognized as short cylindrical gray particles resembling short segments of "lead" from a mechanical pencil.

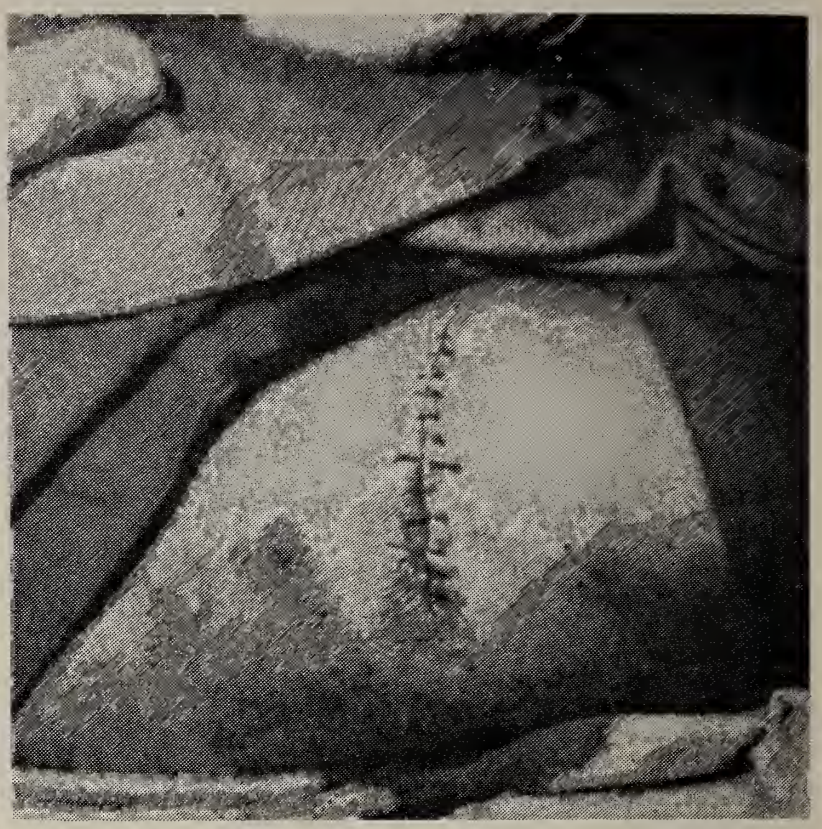
Fig. 2

Fig. 3

The treatment of these wounds was representative of current military wound surgery. With the exception of those located on the face and scalp, battle wounds are usually not closed at the time of the first surgical procedure such as debridement. It has been found that the incidence of wound infection has been considerably reduced by allowing several days to elapse between debridement and closure of the wound.

This case is reported to illustrate an example of the infinite variety of possibilities for receiving injury in wartime.

Fig. 4



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Scientific PAPER

Presence of Juxtaglomerular Cells Away From the Glomerular Hilus in Mouse – A Brief Report*

T. Shimamura, M.D., Asst. Prof. of Pathology, University of South Dakota, School of Medicine, Vermillion, South Dakota

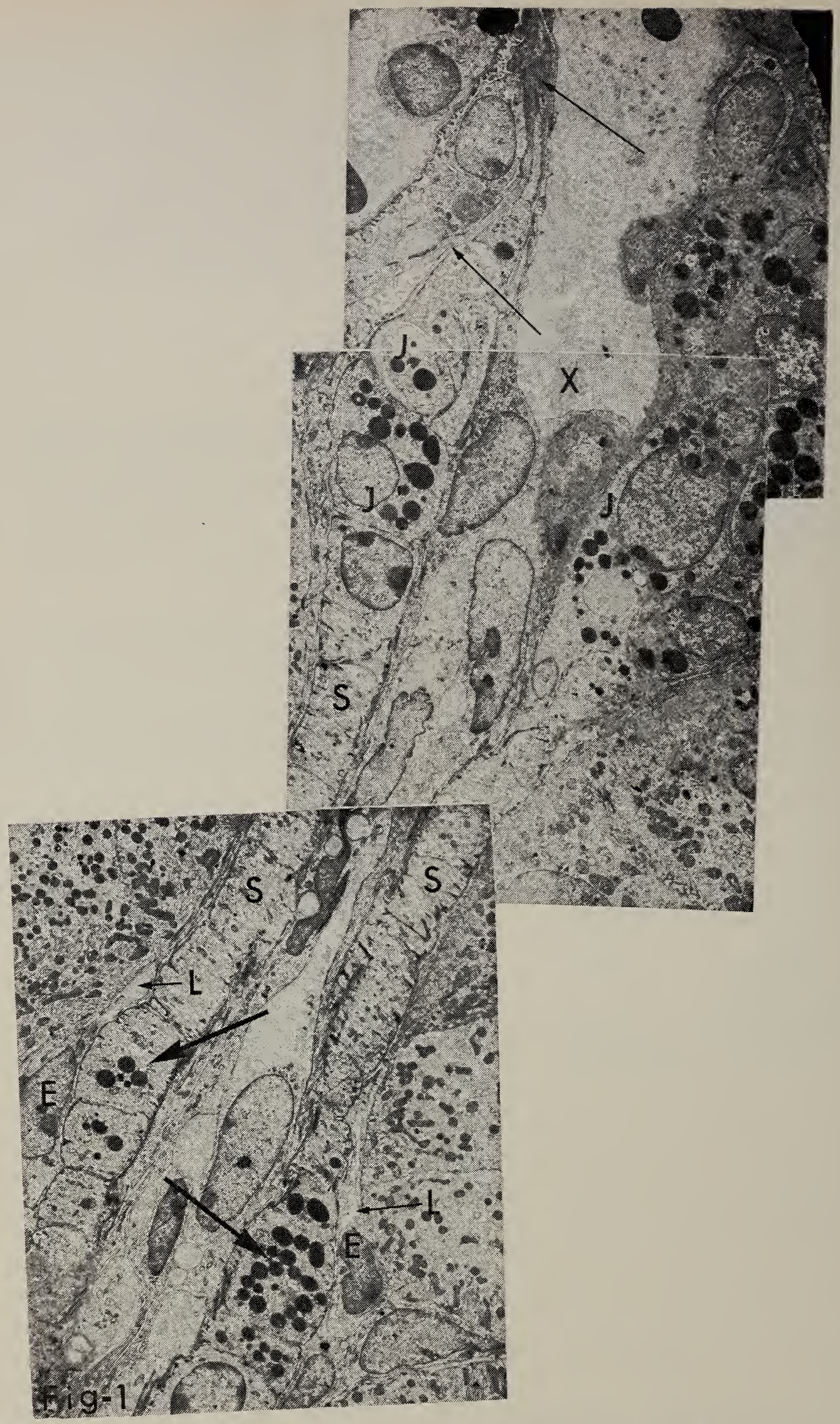
A juxtaglomerular apparatus is situated at the glomerular hilus in an intimate association with the macula densa. While the involvement of the juxtaglomerular apparatus in the production of certain types of hypertension appears to be well established both in man[1, 2] and in experimental animals,[3, 4, 5, 6] the exact mechanism of hyperactivity of the juxtaglomerular apparatus is still controversial.[6, 7, 8]

During a study of kidney sections under the electron microscope, the author had a rare occasion to observe a rather long segment of tangentially sectioned afferent arteriole. In this section, a second group of cells morphologically similar to juxtaglomerular cells were noted at a distance from the glomerular hilus. Although the mouse had been unilaterally nephrectomized and had received immunization using an altered renal tissue,[9] such a long tangential section of afferent arteriole is a rare and chance occurrence. In addition, this distantly placed group of cells were observed to be in intimate association with capillaries. The finding was recorded since it was considered to be unusual and worthy of further study.

The mouse had received weekly intradermal injection of 0.1 ml. of 0.6% autogenous renal tissue in half and half mixture of complete Freund's adjuvant and physiological saline solution. It was killed by decapitation on the 6th week. Small pieces of kidney were fixed in veronal-buffered 1% osmium tetroxide for one hour, dehydrated by ethanol, and embedded in Epon and Araldite mixture. Thin sections, double stained with uranyl acetate and lead citrate, were examined under an RCA-3G electron microscope.

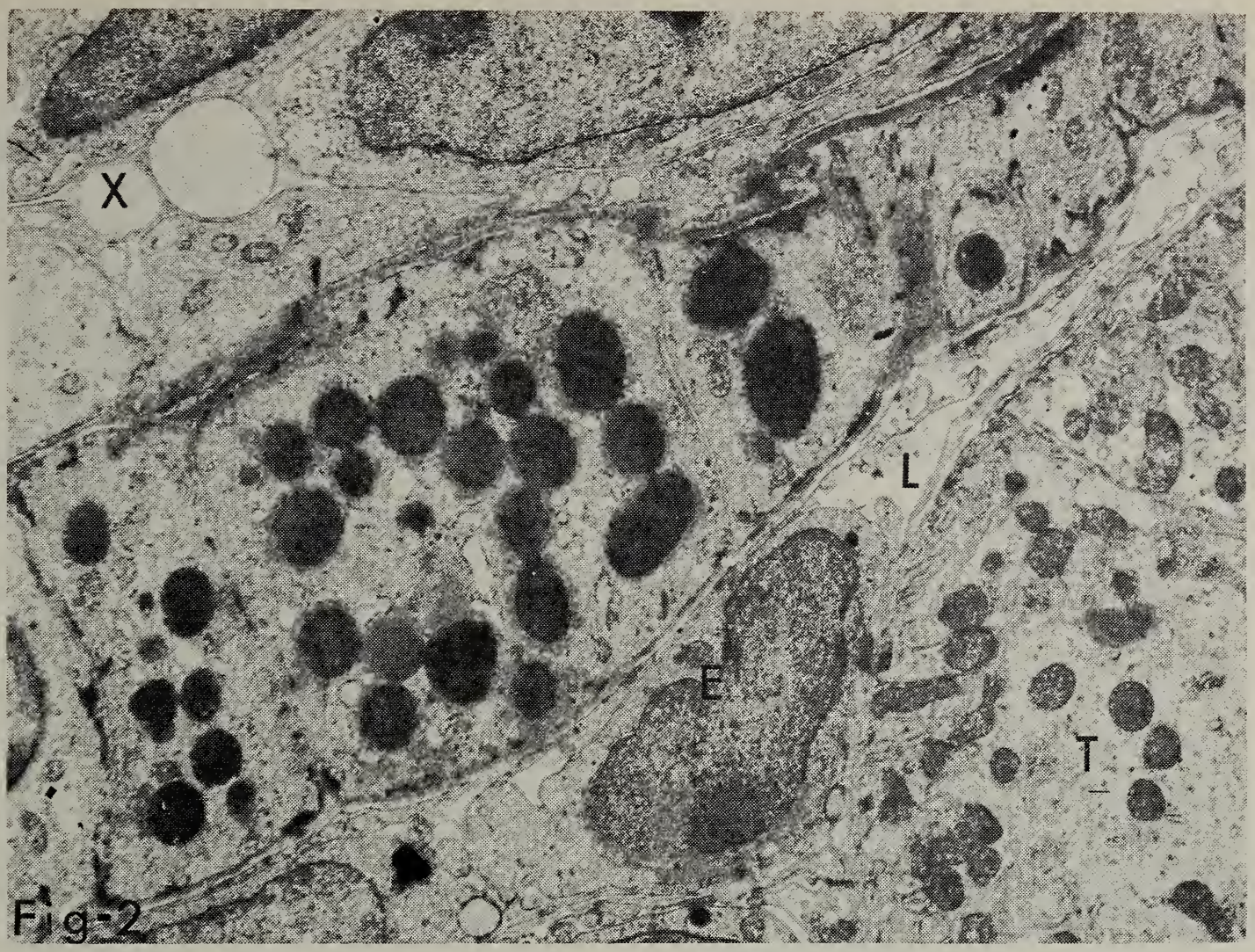
An electron micrograph of tangentially sectioned afferent arteriole is shown in figure 1. Juxtaglomerular cells with their distinct cytoplasmic granules are present at the glomerular hilus. Within the same arteriolar wall, another group of morphologically similar cells can be seen separated from the juxtaglomerular cells at the hilus by several smooth muscle cells (fig. 1). The cells distant from the glomerular hilus revealed a close association with the capillaries (fig. 1, 2) and were not directly in contact with the macula densa. Close association of these cells with capillaries suggests a baroreceptive function. It is also possible that the solute concentration within the adjacent capillary or the arteriolar lumen may affect these cells and thus influence the sodium concentration or osmotic pressure of the urine within the lumen of macula densa.

*This investigation was supported by U. S. Public Health Service Grant 1 S01 FR 5421-06.



Electron micrograph of tangentially sectioned afferent glomerular arteriole is illustrated. A part of the glomerular structure is seen in the upper part. Several juxtaglomerular cells (J) are present at the glomerular hilus showing typical electron-dense cytoplasmic granules. Morphologically similar cells (larger arrow) are also present away from the hilus. These cells are in intimate association with the capillaries. Also note the continuous internal and external elastic membrane fusing together with the glomerular capsular basement membrane (smaller arrow).

L: capillary lumen. E: capillary endothelial cell. S: smooth muscle cell in the afferent arteriolar wall. X: afferent arteriolar lumen. Mag. X 2880.



Higher magnification of one of the granulated cells indicated by the larger arrow in figure 1. Intimate association to the capillary is well illustrated.
L: capillary lumen. T: tubular epithelial cell.
X: arteriolar lumen. E: endothelial cell.
Mag. X 10500

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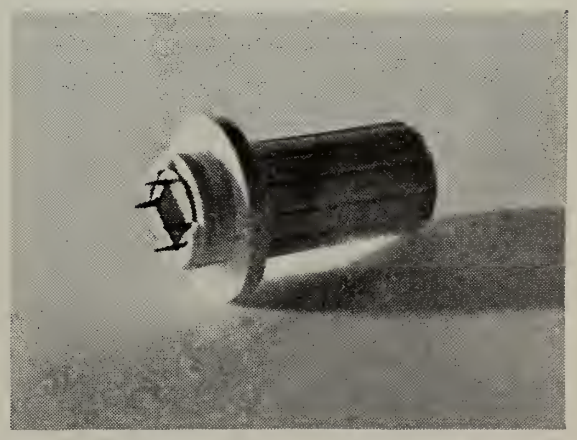

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THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

MINI-QUESTIONNAIRE

We would like to thank those who replied to our recent questionnaire concerning the "Commentary" page. Of the 560 questionnaires sent out, 95 (17%) were returned.

Of those who responded, 67% said they usually read the page, 3% read it part of the time and 29% don't read it. If we assume that 75% of those who didn't reply don't read it, then the reader rate drops to about 30% of all those who receive the Journal. Those who don't read it gave the following reasons: A) 8 don't get the journal, B) 3 didn't know "Commentary" page was there, C) 3 were new in the state, D) 1 didn't have time, E) 13 didn't say. However, 78% thought the page was a worthwhile venture even though they didn't always read it. Only 5% said "Commentary" wasn't worthwhile.

With regard to the kind of articles the readers preferred, the following data were obtained:

Academic Affairs	67%
Faculty	54%
Administrative Affairs	43%
Students	41%
Research Projects	26%
Other	15%

More than half the respondents were most interested in academic affairs and faculty and from the comments made, more interest was expressed in admissions and transfers than in courses and curriculum. Almost half the respondents wanted more on administrative affairs and student affairs while less than one-third wanted more material on research and other subjects.

Only 21% stated which article they thought most interesting and 17% said which one they thought least interesting. We think all this means that "Commentary" didn't make much of an impression on most of you. We hope this isn't true but we'll try a little harder anyway.

THE WITHERING FACULTY

Last month, in answer to criticism about the imbalance between teaching medical students and research, I indicated that the modern medical school had much more to do than simply teach medical students. At this time, I would like to point out some of the things we, as a medical school, are expected to do.

We are expected to (1) teach medical students, (2) teach medical technologists, (3) teach nursing students, (4) teach dental hygienists, (5) train graduate students, (6) conduct postgraduate medical programs, (7) carry out medical research programs, (8) perform service work for physicians and hospitals, (9) service many governmental agencies and health organizations, (10) do all the administrative work associated with this and most recently, (11) direct the Heart, Cancer, Stroke Program. In addition, some people have advocated that the medical school should also assume responsibility for such tasks as population control, air pollution, abuse of drugs, publication of medical journals, and the abolishment of poverty. Others expect a two-year dental school.

Acknowledging that each of these functions, in itself, is very worthwhile and assuming that we had a sufficient number of professional and administrative staff, it would still be an almost impossible burden to carry. We would become a "jack of all trades and master of none." The situation is even more difficult when you consider that the South Dakota Medical School has the smallest full-time faculty of any medical school in the United States and Canada. We have 20 full-time basic science faculty (with doctorates) at the present time whereas other two-year schools seem to do much better. North Dakota has 36, New Mexico (a new school) has 28 and Dartmouth has 47 for an average of 37 — almost twice South Dakota's total.

I think it is clear that we must do one of two things (1) double the size of our professional and administrative staff or (2) eliminate most of the functions that have come to be expected of us. It would then be necessary for other institutions or agencies to assume additional responsibilities. To carry out all of the functions expected of us in a manner commensurate with the dignity of the profession would require a rather substantial increase in financial support for the Medical School, a fact with which the legislature should be aware.

—CRG

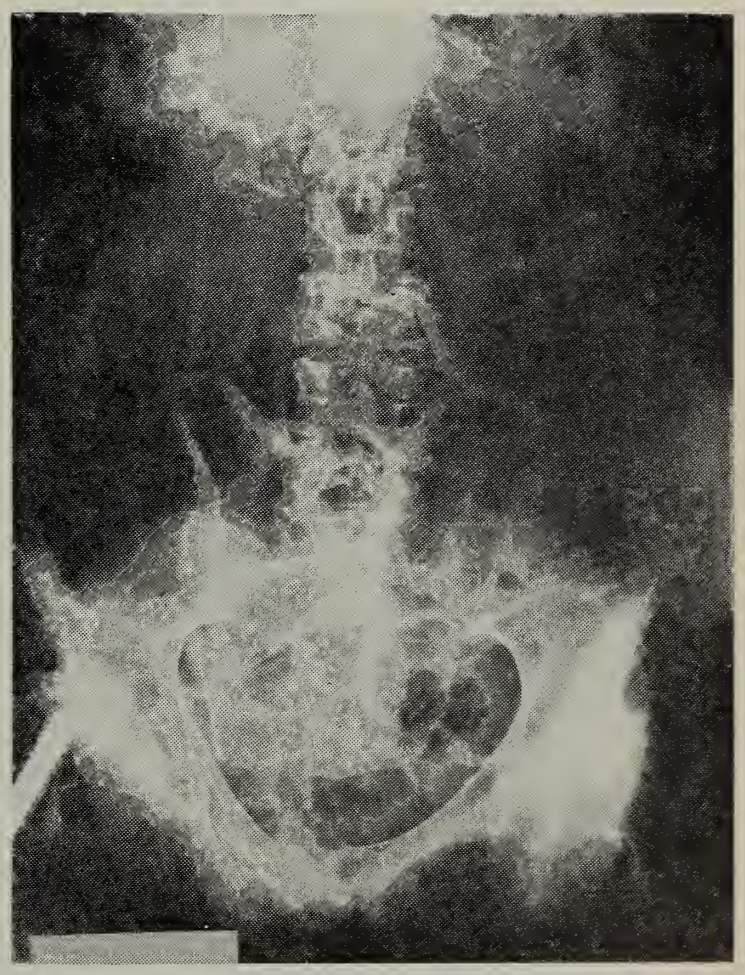
RADIOLOGIC CASE PRESENTATION No. 2

Martin Frank Petereit, M.D.*

This case is of an eighty-one year old female who was admitted to a local hospital with an acute abdomen. Pertinent past history revealed peptic ulcer disease and diverticulosis. Physical findings of the abdomen included distention, rigidity and decreased bowel sounds. In the x-ray department, a "three-way abdomen" (erect, supine and left lateral decubitus) was taken. However, only the supine film is presented for this discussion. This film shows air containing segments of small and large bowel which are moderately dilated. The most significant finding is that the **outer,** as well as the inner margin of the bowel is clearly visible. This results from the accumulation of gas both around the viscus and within it. Therefore, this is pathognomonic of pneumo-peritoneum. Of incidental interest, is the arthritic process in both hips (which is not well seen) and the old fracture of the right femur.

Considering the history and the clinical picture, a perforated duodenal ulcer appeared to be the leading possibility. However, a perforated diverticulum of the colon was also considered. The patient was treated conservatively with success. During her hospitalization, she had an upper gastrointestinal examination which demonstrated a narrow, short sinus tract originating from the duodenal bulb. Therefore, it is almost certain that the patient did have a perforated duodenal ulcer which "sealed off" under conservative management. She was discharged from the hospital one month after admission.

*Medical X-Ray Center, Sioux Falls, South Dakota.



Supine film of abdomen of an eighty-one year old female taken soon after she presented with an acute abdomen.

Pneumo-peritoneum

There are a number of causes of intraperitoneal gas as described by Frimann-Dahl[1] which may be classified as follows:

(1) Spontaneous
  A. Perforation related to previous disease
    1. Gastric or duodenal ulcer — The gas may be seen as early as one hour after the perforation.
    2. Appendicitis — If gas is present (it

usually is not), only small amounts are seen. Larger amounts may be evident with a perforated appendiceal abscess.

3. Tuberculosis—This is rare, but may be found in the mid-portion of the intestine and in the ileo-cecal region.
4. Typhoid fever—This is another rare cause of small bowel perforation.
5. Carcinoma, especially of the colon—This may be the result of an ulcerating tumor or of a stenosing cancer with secondary dilatation and perforation of the bowel proximal to the lesion. In the colon, carcinoma is often the cause of free intraperitoneal gas. Vast amounts of gas may be produced.
6. Diverticulitis — This is the inflammatory stage of diverticulosis, a very common condition. Diverticulitis usually implies perforation of one or more of these structures. Commonly, abscesses are formed, but occasionally free air is seen. A perforated peptic ulcer in a Meckel's diverticulum has been reported.
7. Pneumatosis cystoides intestinalis—The rupture of these subserous blebs may lead to an enormous pneumo-peritoneum. Often these patients are operated upon, and sometimes the ruptured cyst (or cysts) can not be identified.
8. Miscellaneous and rare causes—Examples are: lymphopathia veneria, adnexal lesion with tubal rupture, etc.

B. Perforation not related to previous disease
   1. Trauma — Blunt injury to the abdominal wall may result in rupture of the intestinal tract at any level, however, the small bowel is most frequently affected. Free gas with small bowel rupture is comparatively rarely (it is quite common with rupture of the air-containing colon) produced. In part, this is because the normal small intestine in adults contains little or no gas. Also, the small bowel loops lie closely packed and fibrinous adhesions soon develop so that no gas can escape. Penetrating injury from a knife, bullet, etc., may be mentioned here.
   C. Infection — This would be peritonitis caused by gas-forming bacteria.

(2) Iatrogenic
   A. Laparotomy—This is the most common cause of pneumo-peritoneum. Usually the gas disappears in four to five days but it has remained as long as four weeks.
   B. Therapeutic—This is occasionally still utilized in the treatment of pulmonary tuberculosis.
   C. Diagnostic—This may be quite helpful in differentiating between hernia and eventration of the diaphragm.[2] Another diagnostic reason for free air is Fallopian tube insufflation.

(3) Self induced — Intraperitoneal gas has been observed after a vaginal lavage.

Discussion

To demonstrate a pneumo-peritoneum a horizontally directed x-ray beam is utilized, either in upright position, in lateral decubitus or in supine position (this would be a cross table lateral view). The principle is to allow the gas to ascend to the highest point in the peritoneal cavity and to film the appropriate projections. The supine position is easiest for the patient to assume, but the free air is most apparent in the erect or lateral decubitus position. This is especially true if only small amounts of free air are present. The best place to show the gas shadow is under the diaphragmatic domes. This may be more convincing on the right side since normal shadows on the left side may confuse the picture.

If the patient is in the supine position and if the x-ray beam is directed vertically (the so called "flat plate"), a pneumo-peritoneum can be diagnosed if both margins of the bowel are clearly seen. However, a moderate amount of free gas must be present before this sign becomes apparent. We have recently observed a case of peritonitis with a small amount of free air which could be seen only on the left lateral decubitus projection.

The roentgenogram presented here was made in the supine position with the x-ray beam directed vertically. This single view was selected for discussion for two reasons: 1. It is diagnostic of pneumo-peritoneum. 2. Often the clinician will request only a "flat plate" for a patient with an acute abdominal problem.

To digress for a moment, it is sometimes quite difficult to try to distinguish between obstruction, ileus, etc., on a good three-way study. Thus, attempting to render a valid opinion on a "flat plate" is often an exercise in futility. However, significant differential diagnostic information can frequently be obtained from a three-way examination.

The remaining films taken on this patient also showed multiple air-fluid levels and the combined findings were most compatible with an ileus. Intestinal involvement after a perforated ulcer may at times be insignificant, but most cases present signs of peritoneal irritation (minimal to moderate dilatation of a few bowel loops, short fluid levels etc.) after seven or eight hours.

Conclusion

A case of a perforated duodenal ulcer with pneumo-peritoneum evident on a supine film is presented. The etiologies of intraperitoneal gas are enumerated and discussed. If a roentgenographic study is desired for the patient with an acute abdomen, a three-way examination is recommended. Even if the patient can not stand for the erect view, at least the decubitus film can be made.

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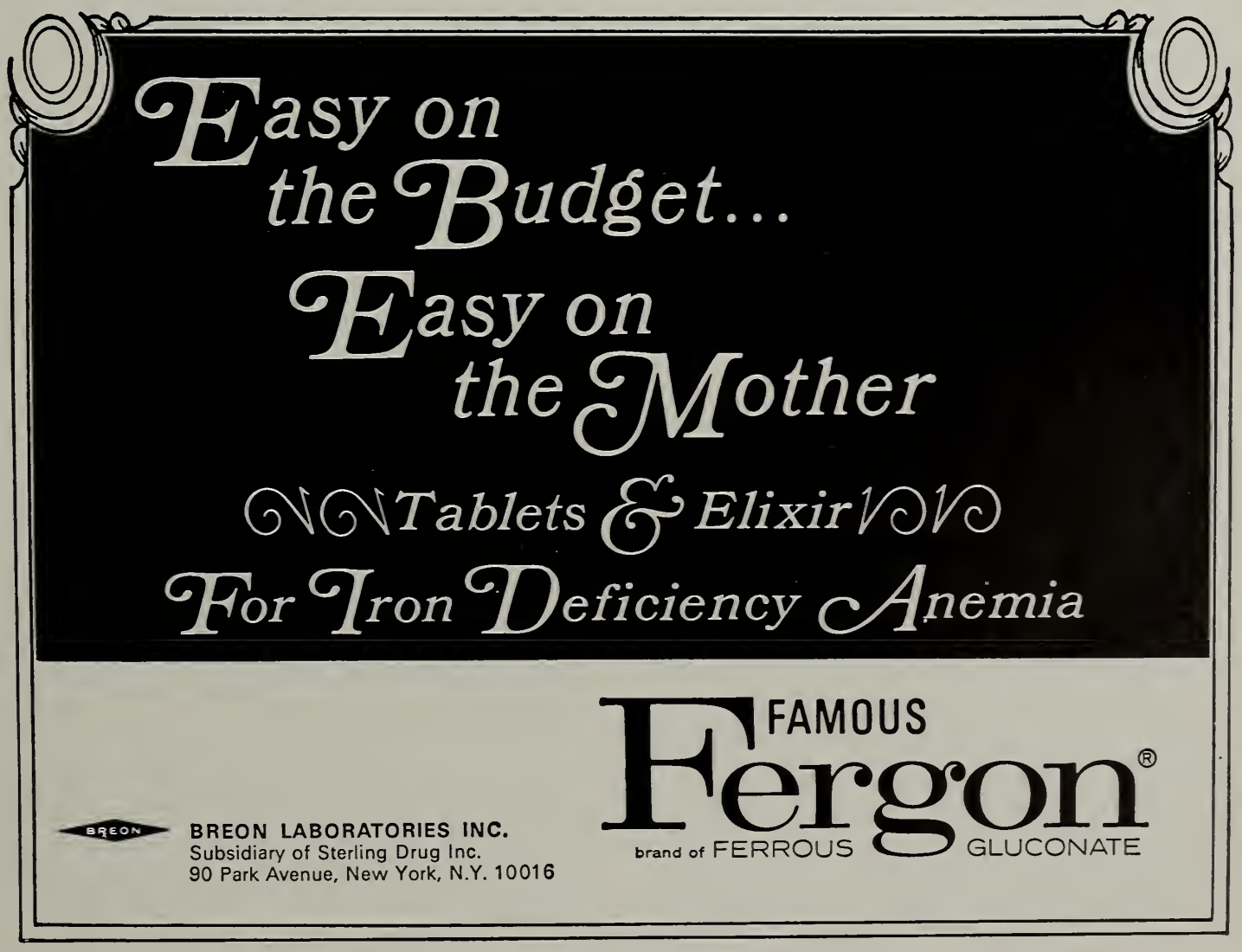
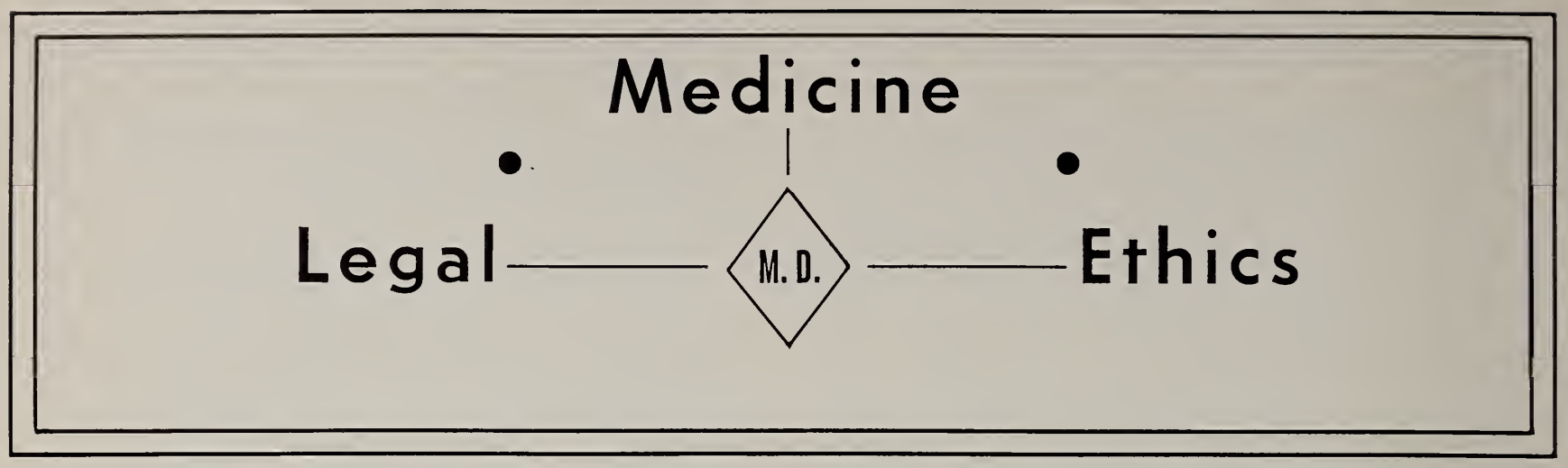
ADA URGES INCREASE IN NEGRO DENTISTS

In view of the rising demand for dental care among the lower income groups, the American Dental Association has called for an increase in the number of Negro dentists. "At a time when the demand for dental care is rising, especially by the lower income group, the decline in the number of Negro dentists is regrettable," an editorial in the January **ADA Journal** stated. "Negroes constitute 11.4 per cent of the U. S. population, but only two per cent of the nation's dentists," according to the editorial.

161 MILLION AMERICANS HAVE SURGICAL EXPENSE PROTECTION

Approximately 145 million Americans have medical and surgical expense coverage, while about 16 million persons 65 and over have this type of protection under Part B of Medicare.





Medical evidence of physical impossibility of intercourse bars divorce for adultery — A husband's suit for divorce on the ground of adultery was dismissed by a New Jersey trial court. The wife established through her own testimony and that of her gynecologist, which testimony was supported by hospital records, that as the result of extensive radium X-ray therapy for carcinoma of the cervix, received six years before the date of the alleged adultery, her vagina was completely occluded and obliterated before the date of the alleged adultery. The gynecologist testified that not the slightest degree of penetration was possible. Since it was physically impossible for the wife to have intercourse, the husband was not entitled to a divorce on the ground of adultery. Even if the evidence showed that the wife engaged in sexual conduct other than intercourse with the third person, the husband could not be granted a divorce on the ground of adultery.

Husband personally liable for medical expenses of wife under guardianship — Two physicians were entitled to recover their fees for services rendered to a patient in a suit against her husband, even though the patient was under guardianship as an incompetent at the time the services were rendered, a Louisiana intermediate appellate court ruled. The Husband contended that he could not be held personally liable for the fees because of the statute which provides that a guardian may spend such amounts of an incompetent's estate as are necessary to care properly for the incompetent. The statute merely states the use that may be made of the incompetent's estate and has no bearing on the liability of the husband of an incompetent for medical services rendered to her during their marriage. A husband is personally liable for his wife's medical expenses during the existence of the marriage. Placing the wife under guardianship had no effect on the existence of the marriage. Therefore, the husband was personally liable for the medical expenses.

Information provided by the Law Dept. of the American Medical Assoc., 535 N. Dearborn, Chicago, Illinois 60610.

Patents and Copyrights

A physician may patent surgical instruments, appliances, and medicines or copyright publications, methods, and procedures. The use of such patents or copyrights or the receipt of remuneration from them which retards or inhibits research or restricts the benefits derivable therefrom is unethical.

Secret Remedies

The prescription or dispensing by a physician of secret medicines, or other secret remedial agents, of which he does not know the composition, or the manufacture or promotion of their use is unethical.

Cult Practitioners

The council has emphasized the importance of maintaining the dignity of medicine and of upholding the soundness of the teachings of scientific medicine as opposed to the fallacies of sectarianism. Either the theories and practices of scientific medicine are right and those of the cultists are wrong, or the theories and practices of the cultists are right and those of scientific medicine are wrong. The physician who maintains professional relations with cult practitioners would seem to exhibit a lack of faith in the correctness and efficacy of scientific medicine and to admit that there is merit in the methods of the cult practitioners.

Upholding the Honor of the Profession

A physician is expected to uphold the dignity and honor of his vocation.

Safeguarding the Profession

Every physician should aid in safeguarding the profession against admission to it of those who are deficient in moral character or education.

CLINICOPATHOLOGICAL CONFERENCE - SIOUX VALLEY HOSPITAL

From the Intern and Resident Teaching Conferences of the Sioux Valley Hospital, Sioux Falls

JOHN F. BARLOW, M.D.[1]
Pathologist - Editor

ROBERT E. NELSON, M.D.[2]
Surgeon - Discusser

CASE No. 437753

This 30-year old Caucasian male entered Sioux Valley Hospital with a chief complaint of abdominal pain of three days duration.

Three days prior to admission he developed hiccups and periumbilical, crampy abdominal pain. This became more intense and was associated with nausea. He vomited once. Examination by his local physician showed no localizing peritoneal signs and he was treated symptomatically. The pain became worse the next day with an accentuation in the right lower quadrant. Nausea, vomiting, and hiccups continued. There was abdominal rigidity, guarding and rebound tenderness diffusely without localization. There were no bowel movements since the onset of the present illness. There was no jaundice, chills, fever or urinary complaints. He was admitted for further evaluation.

There was a history of a convulsive disorder since age ten well-controlled on dilantin and phenobarbital. Several years prior to admission he had a splenectomy for a ruptured spleen after an automobile accident. He also had a mild left hemiparesis secondary to a subsequent automobile accident. He was known to consume excess amounts of alcohol intermittently.

Physical examination on admission showed an acutely ill, mildly dehydrated white male with pulse 130, temperature 100[2], respirations 24, and blood pressure 152/110 (this later decreased to normal).

The head, neck and chest were normal. The abdomen was moderately distended and there was involuntary guarding, rigidity, and marked rebound tenderness without definite localization but the signs were most marked in the right lower quadrant. The bowel sounds were hypoactive. There were no herniae. Rectal examination revealed diffuse tenderness.

Urinalysis showed yellow, slightly cloudy urine with specific gravity 1.019, pH 6.0, negative for protein, glucose, acetone and occult blood. There were 10-12 WBC/HPF and an occasional coarse granular cast. Hemoglobin was 18.0 gm.%, RBC count 5.14 million/mm^3, hematocrit 54%, mean corpuscular hemoglobin 35 micromicrograms, mean corpuscular volume 102 cubic micra, mean corpuscular hemoglobin concentration 33%, WBC count was 16,000/mm^3 with 80% neutrophils, 8% band forms, 1% eosinophils, 10% lymphocytes and 1% monocytes. Platelets were adequate and red cells appeared normochromic and normocytic on a smear of peripheral blood. Serum calcium 7.7 mgs% (normal 8.3-10.3 mgs%), Phosphorus 2.0 mgs% (normal 3.0-4.5 mgs%), Amylase 80 units (normal 60-160 units), Sodium 131 meq/L, Potassium 5.0 meq/L, Chloride 87 meq/L, CO_2 content 29 meq/L.

A flat film of the abdomen was interpreted as showing adynamic ileus and a possible right ureteral calculus. Intravenous pyelogram showed no ureteral obstruction and the previous questionable calculus was not seen. An operation was performed on the second hospital day.

Dr. Robert E. Nelson*: The case for discussion this morning is a 30-year old, acutely ill, dehydrated, Caucasian male who enters the hospital with the chief complaint of abdominal pain of three days duration. The present illness started with rather sharp, cramping, periumbilical pain which gradually became more intense and eventually was associated with nausea.

When first seen, the pain was not localized, but after admission to the hospital, signs appeared to localize in the right lower quadrant. He was eventually taken to surgery.

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1. Clinical Assistant Professor of Pathology, School of Medicine, University of South Dakota, and Pathologist, Sioux Valley Hospital.
2. Associate Professor of Surgery, School of Medicine, University of South Dakota, and Surgeon, Sioux Valley Hospital.

*Surgeon, Sioux Valley Hospital

When a problem such as this is approached, I believe that one should first determine whether or not the patient has a condition amenable to surgery, and secondarily the exact disease process. There are several conditions which must be considered in the differential diagnosis of this patient. The number one consideration should be appendicitis.

The patient's illness began with periumbilical pain followed by nausea, and eventually by some indications of localization in the right lower quadrant. One would also have to consider gastroenteritis, mesenteric adenitis, and perforated peptic ulcer. I do not believe this is gastroenteritis because of the appearance of nausea after the steadiness of the pain and the severity of the objective physical findings. This case could represent mesenteric adenitis. However, with a high white count and the shift-to-the-left in the differential, I do not believe that it should be seriously considered. Perforated peptic ulcer should give a more acute illness, more intense pain and even more pronounced physical findings. Right lower quadrant physical findings are possible with perforated ulcer. The apparent absence of free air is radiologically against perforated ulcer.

Other diagnoses such as a calculus in the right ureter and pancreatitis should be mentioned. A ureteral calculus would be unlikely because of the normal intravenous pyelogram and lack of red blood cells in the urine. Pancreatitis would be unusual since the serum amylase is normal. It should be noted, however, that the serum calcium is low. It certainly is unusual to have a pancreatitis with a normal serum amylase. However, when the determinations are done late, several days after the appearance of symptoms, this laboratory test can return to normal values.

This patient fits my criteria for operability for an acute abdomen. He has abdominal pain; he has signs of disease in the intestinal tract (that is, nausea and vomiting), and he has localizing physical signs. I would rehydrate this patient and operate. My provisional diagnosis would be acute appendicitis. However, perhaps it is best that I first back up and seek some help from the radiologist and see if he confirms my opinion of the absence of free air in the abdomen.

Dr. Donald Breit*: This is the first film taken and shows focal calcification in the right lower quadrant. I think two things have to be ruled out when you see such a calcification. The first is a coprolith in the appendix and the second is a calculus in the ureter. In the subsequent films this density disappeared. The gas pattern shows gas both in the small and large bowel characteristic of adynamic ileus. This separation of the loops of bowel suggests fluid within the peritoneal space. The intravenous pyelogram shows nothing unusual about the kidney. With the gas pattern and the fluid between the loops of bowel, I feel that we have to consider peritonitis even though the fever was not very high in this patient. There is no evidence of mechanical obstruction. I fully agree with Dr. Nelson in that I see no free air in the peritoneal space nor in the lesser space to indicate a perforated viscus. Of course, one may have a perforated viscus in the absence of free air. I feel that we are dealing with some sort of inflammatory process in the abdomen. It may have started in the appendix; it may have started in the pancreas. I doubt hepatitis. There could be an internal herniation. It would have to be an internal herniation of the omentum and not the bowel because there is no mechanical obstruction.

Mr. David Boyer*: With the presence of a possible calculus on the anterior-posterior x-ray and none on the IVP, I thought of a gallstone ileus.

Dr. Breit: I think the lack of mechanical obstruction on the x-ray would tend to rule against gallstone ileus; also the questionable calcification that we have discussed is probably an artifact. There is also no air in the biliary ducts.

Dr. Nelson: Is his large bowel in normal position?

Dr. Breit: Yes.

Dr. John F. Barlow: Dr. Frost, who operated on this patient could not be here, so I will summarize his operative note: The appendix appeared normal except for an inflamed serosa. The abdomen contained a considerable amount of fluid. Palpation of the upper abdomen revealed an acutely inflamed pancreas. Nodules and plaques were present on the omentum and peritoneum. A nodule from the peritoneum was biopsied.

Dr. Dorence L. Ensberg:** I feel that this patient under these circumstances certainly pre-

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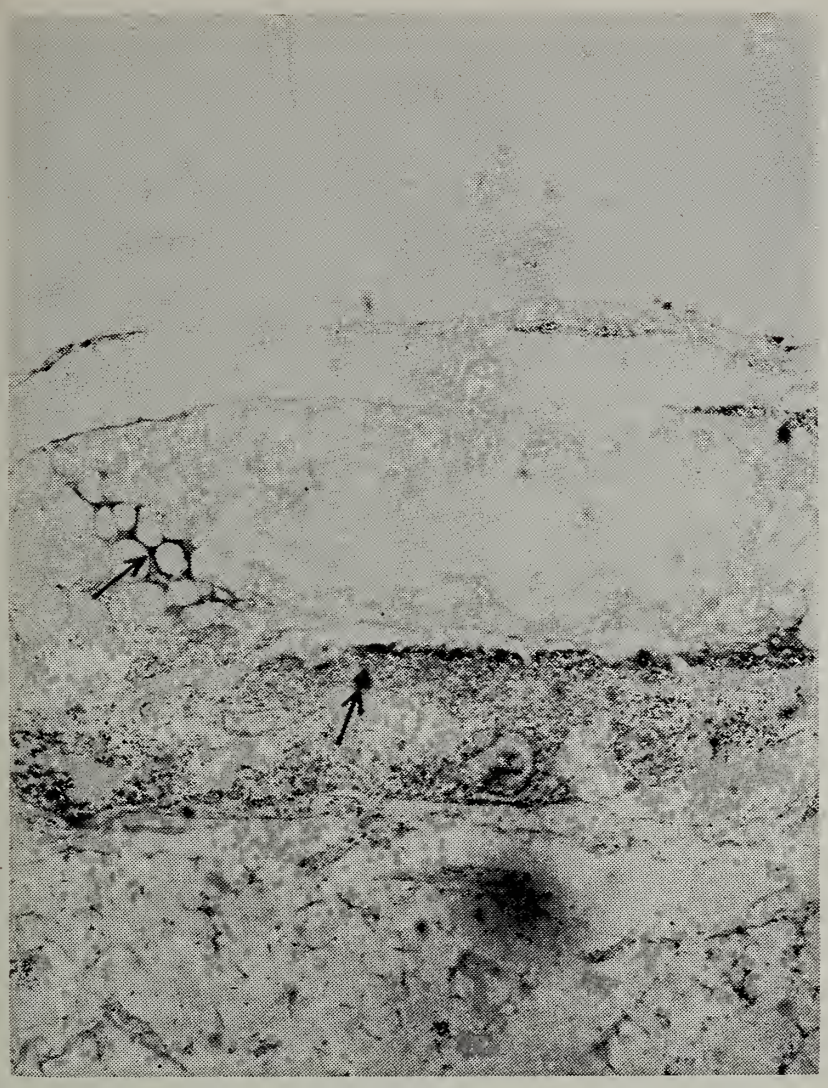
*Radiologist, Sioux Valley Hospital

*Medical Student, Sophomore Class, School of Medicine, University of South Dakota (presently Third Year Class, Cornell University School of Medicine).

**Surgeon, Sioux Valley Hospital, and Associate Professor of Surgery, School of Medicine, University of South Dakota.



Focus of fat necrosis in peritoneal fat. There is focal calcification (arrows).

sented a picture compatible with acute appendicitis and should have been operated on. I might have one suggestion and that would be consideration of a peritoneal tap. In this case, you might have gotten fluid with a very high amylase value which would have been diagnostic.

Dr. Barlow: The appendix was normal. One of the white nodules described in the operative note was sectioned and showed marked inflammation around an area of fat necrosis. Fat necrosis such as that seen here is almost always secondary to pancreatitis and is due to the digestive enzymes liberated as a result of the inflammation. One of the particularly interesting aspects of this case is that the serum amylase was normal. However, it is well known that after three to four days, even in the face of an acute attack of pancreatitis, the amylase will decrease to normal. Some people feel that the serum lipase will remain elevated a longer time than the amylase but there has definitely been argument about this in the literature. Acute pancreatitis certainly can have protean features and can give a picture of shock with an abdominal catastrophe, or a picture such as this one which closely simulates acute appendicitis.

Dr. Karl H. Wegner*: Laparotomy in patients with pancreatitis even though unavoidable at times can increase the mortality and morbidity. How was this patient managed and what was the outcome?

Addendum: According to the patient's physician, Dr. Donald K. Frost, this patient did well postoperatively except for a sterile wound abscess and some postoperative ileus. The patient was treated with atropine and nasogastric-suction and discharged on the fourteenth hospital day. Because of the patient's continued ethanol intake, he had a subsequent milder attack of acute pancreatitis a few months later.

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*Pathologist, Sioux Valley Hospital

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PUBLIC RELATIONS FOR THE DOCTOR**

By REX F. HARLOW*

Because of his function and position in today's society, a doctor practices public relations every hour of every day, consciously or not. He cannot hope for a public relations program worthy of himself, the important function he performs and the distinguished position he occupies, unless he gives it his intelligent personal attention.

It is a task the doctor cannot leave to others but must do himself — earnestly, carefully, and always with an eye to the future. Demands upon him to keep abreast of new developments in his profession are no greater than the demands that he do likewise with his public relations program. How he conducts his practice and how he carries on his public relations are but two parts of his operating system and both parts must function with full efficiency for him to be completely successful.

The doctor has a wonderful opportunity to reap rich rewards from a sound public relations program faithfully maintained and kept up to date, thinks Richard H. Blum, Stanford Research Institute scientist. In his book, **The Management of the Doctor-Patient Relationship,** Blum says that respect, awe, and anticipation of special power surround the person of the physician. The strength of this respect and awe are recognizable in the special efforts at politeness, humility, affability and deference which so often characterize the behavior of the adult patient in the relationship.

Patient relations are his most important relations, write Rollin Watterson and William Tobitt in the opening paragraph of their **Doctor and Patient,** a summary of a psychological study of the public relations of the physician and of medicine by Dr. Ernest Dichter. Medical public relations places emphasis on the individual human relationships between doctor and patient, say the authors.

In the Dichter report, considered by many doctors to be the most valuable public relations document presented to medicine, the psychologist places heavy emphasis upon the vital importance of the doctor-patient relationship, and particularly upon the necessity to keep it up to date. He makes the charge that medicine has lost its "historical heritage" of community devotion and leadership because the doctor-patient relationship has not changed to fit comfortably into the modern pattern of life. The charge appears to be justified. The doctor today who views himself and his work from the Olympian height once occupied by the family doctor is fighting a losing rear action. No longer can he lord it over patient, community, and all else in his orbit, disdaining to depart from the "good old ways"; some students of medicine say he can hardly even serve today as "father confessor." He is living in a different world of Medicare, medical specialists, group practice, rising costs, expanding fees, health insurance, scientific research, and a host of other factors unknown to the family doctor of old.

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*Rex F. Harlow, editor and publisher, The Social Science Reporter, was the first editor of PUBLIC RELATIONS JOURNAL. He has spent 55 years in public relations as a consultant, educator and author.

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How can the doctor develop and maintain a sound public relations program in tune with the times, one that will contribute to his happiness and well-being and expand his usefulness?

His first task is to develop an attitude of genuine interest in public relations. Failure to do this is one of the greatest obstacles the average doctor has to overcome; frequently, lack of interest becomes contempt or antagonism. The doctor has to believe that organized public relations is a necessity in his practice today, that it is on a par with any or all the other activities in which he engages.

Organized public relations: that is the significant phrase in the above sentence. The doctor must gain a careful, realistic view of himself and his work in his community before he can construct an effective public relations program. A hit-or-miss or casual approach to the task will not do. He must ask himself: What kind of person am I? How much do I know about communicating with other human beings, especially patients, community leaders and others outside of my profession who affect me? What do the social and behavioral sciences have to offer me in this connection? Do I know the techniques and tools of public relations? If I do not, where and how can I get help in learning them well enough to serve my needs? These questions will need to be answered before an attempt is made to begin the program.

One requirement, already referred to, which must be met above all others is that the doctor have warm and satisfactory relations with his patients. He must earn and retain their confidence and respect.

Meeting the doctor-patient requirement will call for a keen appreciation and skillful use of communication tools and techniques. Without a sound communication system, the doctor will be lost. He must communicate to his patients his ideas and goals, his whole personality, as well as his explanations and instructions regarding the patient's medical and health needs. Social and behavioral scientists can help. They have long been concerned with communication as one of the great factors in human existence.

FRANK DISCUSSION

One of the biggest errors the doctor can make, as social science research indicates, will be to take for granted that his patient will always understand what he says. The doctor must not assume that his patient uses words just as he does; rather he must assume that unless great care is exercised, the patient will often misunderstand what he says. Also, it has been found that people admit into consciousness only those things which interest and promise to benefit them. They exclude those things they do not like or want.

Guided by these facts, the doctor will frankly discuss fees and render accurate, prompt bills, maintain attractive office facilities and hours, make house calls when requested to do so, keep careful patient records, be friendly, frank and cordial in his office contacts, use a follow-up system to reflect his continuing interest in the patient after the latter's visits to the office or his stays in the hospital, and otherwise carry on his practice on a high professional plane that pleases and satisfies his patient.

To these practical, down-to-earth requirements can be added Dichter's recommendations, that the patient's desire for continuity in his relationship with his doctor should be satisfied; the mutual desire of both doctor and patient for appreciation or affection should be satisfied; and the doctor should permit the patient to become an active and informed participant in his treatment, rather than a passive recipient of care.

Dichter has a particularly interesting recommendation on how to deal with the problem of the declining number and influence of the family doctor and general practitioner. He suggests a semantic approach: use a new designation, **personal physician,** to describe the doctor who diagnoses and treats the whole person, and to whom patients can come for psychological-biological counsel and continuing personal aid in **anything** relating to health. Helping to popularize the use and acceptance of the term personal physician should be a part of the doctor's relations with his patients, and with the public at large as well.

After making sure of the effectiveness of his relations with his patients, the doctor's next step will be to utilize his responsibilities and opportunities as a citizen. He will seek to pay his obligation to society by sharing his knowledge, training and talents. Here again he will leave as little as possible to chance. He will determine to the best of his ability his aptitude for public service, and he will look for ways in which he can expect to render the fullest measure of service and reap the largest rewards. Measuring the amount of time he can allocate to outside activities, he will seek connections within his city, county, state and national medical societies that offer the fullest play to his talents.

Without undue haste or pressure, he will establish himself as a progressive, constructive force in society movements which strive for an enlargement and deepening of public knowledge and acceptance of medicine as a powerful and indispensable social force. He will prove himself by working hard and unselfishly in the ranks.

ESTABLISH CONTACTS

While he is building a place for himself in the medical societies, he will also be establishing contacts with worthy community organizations and movements, selecting the ones whose goals, activities and achievements challenge his interest and in which he thinks he will feel most at home. He will study community needs and opportunities in terms of what is happening within the community and the world, and take his place with other thoughtful, dedicated citizens who are working for the public good.

In external relations activities the doctor will do well to heed the warning and advice of Blum. The physician, says the SRI scientist, has a special language, and by virtue of his social role and training also possesses specific beliefs and behavior not necessarily shared by others. He should seek greatest understanding from people of similar status. There will be the greatest degree of **mis**-understanding between him and lower-class people because of the great difference in backgrounds.

In all his outside contacts the doctor must remember that he is medicine's emissary and spokesman. On all matters of health, both public and private, he will be considered the authority, the person to whom people outside of the medical profession can turn for advice and guidance in making plans and carrying on activities relating to health. Modesty in speech and posture is necessary; at the same time, however, he must be the crusader and educator, one who helps others acquire a fuller and more accurate knowledge of the many values offered by medicine, and who teaches them how best to use that knowledge for the greatest good of the greatest number of people. An inner glow growing out of his love of medicine and dedication to its ideals and goals, demonstrated in his own person and attitudes, will do more to break down unwarranted prejudices and refute misinformed attacks against medicine than anything he will say, regardless of how carefully he marshals his thoughts and chooses his words.

COUNTY SOCIETY

He may want to merge most of his external public relations activities with those of his county medical society. Leo E. Brown, director of public relations, American Medical Association, sees the county medical society as performing such public relations functions as: providing round-the-clock medical service; establishing mediation committees to arbitrate complaints about doctors; providing medical care for the indigent; publicizing home-town medical facilities; working with communication agencies — the press, radio, TV, etc.; promoting health education; taking a leading part in such community actions as school bond-issue fights, safety campaigns, hobby shows for senior citizens, and the like; stimulating progress in interprofessional relations; building better doctor-patient relations.

The basic burden of organizing and conducting his public relations program rests squarely upon the shoulders of the doctor, where it belongs. He can make as little or as much of it as he will; his is the choice. The quicker he realizes that through mastering the techniques of public relations he will contribute heavily to his own growth professionally as well as socially, the better off he will be. Acquiring the habit and skills of studying people, learning "what makes them tick," mixing with them, working with them, serving them, participating with them on behalf of worthy causes, will give him deeper, more accurate insight into all people, his patients included.

The doctor will have much to gain and little to lose by becoming a "first class public relations man." He will grow in stature as a man and a citizen. He will "win his spurs" in public service, take his place as a constructive force in society, contribute to the strength and forward movement of his profession, and enlarge and improve his practice.

PRESCRIPTION DRUG PRICES DROP

Today's more effective drugs take less of your health care dollar than ever before. Drug industry statistics based on recently-published U. S. Department of Commerce figures show that 9.8 cents of the consumer dollar spent on medical care in 1966 went for prescription drugs. In 1957 the amount was 11.7 cents, according to C. Joseph Stetler, president, Pharmaceutical Manufacturers Association. U. S. Department of Labor figures showing that the Consumer Price Index for prescription drugs had dropped to a record low during the first nine months of 1967 also confirm PMA's findings.

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

COPPER

In man, copper is essential for normal activity of several enzymes; these include cytochrome oxidase, ascorbic acid oxidase, tyrosinase and uricase. Together with iron, copper is necessary for hemoglobin synthesis. Approximately 96% of the copper in the body is bound to ceruloplasmin, which contains 0.32% copper. This is a blue colored protein associated with the alpha$_2$ fraction of the serum globulin; the remainder is loosely bound to serum albumin.

Normal Copper Metabolism

The normal adult ingests from 2.5 to 5.0 mg of copper in the daily diet. Almost all ingested copper is ultimately excreted in the stool. Studies using radioactive Cu^{64} have shown that 30 to 40 percent of ingested copper is absorbed from the intestine and subsequently excreted in the bile. Thus, the liver is the chief organ of copper excretion, and it together with the central nervous system has a higher concentration of copper than other organs.

The concentration of copper in serum is slightly higher in females than males. The usual normal value is 70 to 150 mcg per 100 ml serum, with an average mean value of 121 for females and 113 for males. These values represent total copper. Ceruloplasmin determinations are sometimes necessary, and this substance can be assayed by its enzymatic action as an oxidase or by immunodiffusion techniques. Average normal values of ceruloplasmin are 23-44 mg/100 ml.

Abnormal Copper Metabolism

In Wilson's disease (hepatolenticular degeneration) serum ceruloplasmin is usually markedly decreased and abnormally large amounts of copper are deposited in the liver and lenticular nucleus of the brain and excreted via the renal tubules. Damage to these organs produces the syndrome of muscle rigidity, incoordination, cirrhosis and general aminoaciduria. Copper deposits in the cornea (Kayser-Fleischer rings) are pathognomic of Wilson's disease. In this condition the "direct acting" or albumin serum copper fraction may be elevated. This is partly due to failure to synthesize ceruloplasmin and partly to increased absorption of copper from the intestine. Therapy aimed at reducing intestinal copper uptake with potassium sulfide and increasing its urinary output with penicillamine or BAL has been partially successful.

Copper increases both the absorption of iron from the intestine and its transport from tissues to plasma. In copper deficiency hypoferremia results. Hypochromic microcytic anemia and thin, easily fractured bones with wide epiphyses have been observed in young dogs on a copper deficient diet. This condition can be relieved by the administration of copper. Untreated copper deficiency leads to weight loss and ultimately death although the associated hypochromic microcytic anemia may not be severe.

In nutritional deficiencies of infants associated with edema, bone deformities and hypochromic microcytic anemia, a good therapeutic response to combined iron and copper therapy has been reported in the same patients who failed to respond to iron therapy alone.

In addition to Wilson's disease, low serum ceruloplasmin levels are reported in the nephrotic syndrome and such disorders as dysproteinemia of infancy, Kwashiorkor, sprue and celiac disease. Normal newborn ceruloplasmin levels also are low but ordinarily reach adult levels by the second month of life.

Hypercupremia is observed in rheumatoid arthritis, late pregnancy, cirrhosis, myocardial infarction, thyrotoxicosis, acute and chronic infections, leukemia, Hodgkin's disease and hemochromatosis. In these conditions the hypercupremia is a reflection of the associated increase in alpha$_2$ globulin and no toxic effects of the hypercupremia are observed.

Serum ceruloplasmin and copper studies are indicated in patients with clinical symptoms suggesting Wilson's disease and in severe nutritional disorders accompanied by anemia. Since genetic studies indicate that Wilson's disease is probably inherited in an autosomal recessive manner, earlier diagnosis and treatment could be achieved by screening relatives of known cases for low ceruloplasmin activity.

Material Needed for the Test

Serum 5 ml.

Serum should be removed from the clot as soon as possible. If ceruloplasmin studies are to be performed and there is any appreciable delay in getting the serum to the laboratory for performance of the test, the serum should be frozen.

The relief received from the first Trocinate 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinate 400 mg. with literature will be sent to physicians for their personal use.

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MORE DOCTORS NEEDED IN COMPUTER AGE

As the need for computers in the practice of medicine continues to expand in the future so also will the need for physicians increase, according to Surgeon General William H. Stewart. He said the physician should consider the computer as a tool that "lends the same leverage to man's mental powers that industrial tools add to his muscles." Speaking at an American College of Cardiology meeting, Dr. Stewart predicted the replacement of the periodic physical checkup by a system of multiphasic health screening exams.

ANNUAL OTOLARYNGOLOGIC ASSEMBLY

October 12 through 18, 1968

THE ANNUAL OTOLARYNGOLOGIC ASSEMBLY OF 1968, will be held October 12 through 18, 1968, in the Illinois Eye and Ear Infirmary at the Medical Center, Chicago. The Department of Otolaryngology of the College of Medicine of the University of Illinois offers a condensed postgraduate basic and clinical program for practicing otolaryngologists under the direction of Doctor Emanuel M. Skolnik. It is designed to bring to specialists current information in medical and surgical otorhinolaryngology.

A separate, but correlated course entitled "HEAD and NECK RADIOLOGY CONFERENCE" under the guidance of Doctor Galdino E. Valvassori, will be conducted by the Department of Radiology for two full days just preceding the ASSEMBLY, Thursday and Friday, October 10 and 11, 1968.

Interested physicians should direct communications to the mailing address:

Department of Otolaryngology
P. O. Box 6998
Chicago, Illinois 60680

Letter to the Editor—

January 24, 1968

Mr. Richard C. Erickson
Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota 57104

Dear Mr. Erickson:

I was most pleased to learn of the financial assistance given by the South Dakota State Medical Association to the science fairs sponsored by the School of Mines and Technology, South Dakota State University and The University of South Dakota. I understand that this donation from the medical association has annually been made for some time to assist in promoting better science fairs throughout the state. The University of South Dakota takes great pride in sponsoring these fairs which encourage and motivate these students at the secondary level and in turn create an interest in continuing their education beyond high school.

Again, I wish to express appreciation to the Association from the faculty of the University and the students and teachers who directly benefit from your gift.

Cordially,
Edward Q. Moulton
President

ANNOUNCEMENT

A continuation course in Clinical Electroencephalography will be held September 9-11, 1968 in San Francisco, California. The course is designed as a basic review of the applications of the EEG to clinical medical practice, and is sponsored by the American EEG Society (aided by a grant from the National Center for Chronic Disease Control, U. S. Public Health Service).

The faculty will include Drs. Reginald G. Bickford, Rochester, Minn.; David D. Daly, Dallas, Tex.; Robert J. Ellingson, Omaha, Nebr.; Eli S. Goldensohn, New York, N. Y.; Charles E. Henry, Cleveland, Ohio; Peter Kellaway, Houston, Tex.; John R. Knott, Iowa City, Iowa; Michael G. Saunders, Winnipeg, Canada; Daniel Silverman, Philadelphia, Pa.; Richard D. Walter, Los Angeles, Calif.

Inquiries about further details of the course or registration procedure should be addressed to: Dr. Donald W. Klass, EEG Course Director, Mayo Clinic, Rochester, Minnesota 55901.

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20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — Volume 1, No. 3, March, 1948

"Why Not a Fee Schedule for South Dakota"

Two incidents last week were the inspiration for these few paragraphs. First, we received a letter from the Auditor of a neighboring County asking us to discount our bill for services to one of their County patients to the County rate. And then we went over to the Courthouse to pay our taxes and found that they had been raised approximately 35%.

County Commissioners, Social Security bureaucrats, and other governmental agencies, pay regular rates for coal, groceries, rent, etc., but when it comes to medical services they all expect the physicians to discount their bill by 50% or more.

The Planning Committee of the Nebraska State Medical Association recently completed a proposed Fee Schedule for Governmental Agencies and Michigan has been working with such a Fee Schedule for a number of years. We believe that such a Fee Schedule could be worked out for South Dakota. Nebraska's plan provides flexibility by adopting the unit system, so that by simply changing the unit value the whole schedule can be adjusted without altering its established relationship.

We believe that some such instrument for determining uniform and just fees, where public agencies pay for medical care, is needed in South Dakota. Adjustments could easily be made for indigents.

Comment and discussion by the members of the South Dakota State Medical Association would be appreciated.

R. G. M.

DOCTOR — when requesting continued treatment for Veterans Administration beneficiaries, be sure your request arrives at the Medical Association office early enough to make the treatment continuous.

Excerpts from

"Rural Medical Care and General Practice"

by Donald Slaughter, M.D., Dean
School of Medicine
Vermillion, S. D.

. . . . Even though the medical school and the hospitals change their philosophy there is still the problem of attracting men to go into general practice in sparsely settled states, such as South Dakota. In my opinion, there are several points to be considered. First of all, better secondary roads are needed in our state and in other states which are not thickly populated. This will enable the patient to get to the doctor in the shortest period of time. It would be the unusual thing for a patient to require the services of a physician in less time than 60 minutes. As a matter of fact, he may not require the services of a physician in less time than 30 minutes and if he needs attention in less time than this, medical attention would probably not save a life . . . In speaking of group practice, it appears to me that perhaps it is time to educate the general public as to what is best for them so far as medical care is concerned, rather than to have the public decide what in their opinion should be the utopia of medical care. I am not in any way suggesting that a regimentation program be instituted in order that the public should be told what is best for them, but rather I am suggesting that a proper formation of group practice would in itself solve the problem, and tend to very quickly show patients that this was an

ideal setup as far as the practice of medicine and the care of patients is concerned. . . . . As a further remedy for the provision of qualified physicians in general practice we are trying a plan which has the favor of all those I have contacted. At the end of the regular didactic course we are sending each sophomore out with a general practitioner in the state for a period of four weeks. He will accompany the doctor on all of his calls, he will be in the office when the doctor examines the patients who come to see him, will help take histories and do physicals, and will do some of the simple laboratory work. In addition, he will make ward rounds with the physician, and be his assistant in so far as he is capable. We firmly believe that this plan will not only give the sophomore medical student a better clinical background with which to pursue his clerkshop duties as a junior, but that it will inculcate in him the desire to return to our state, or at least to some other sparsely settled state, to do general practice. . . . .

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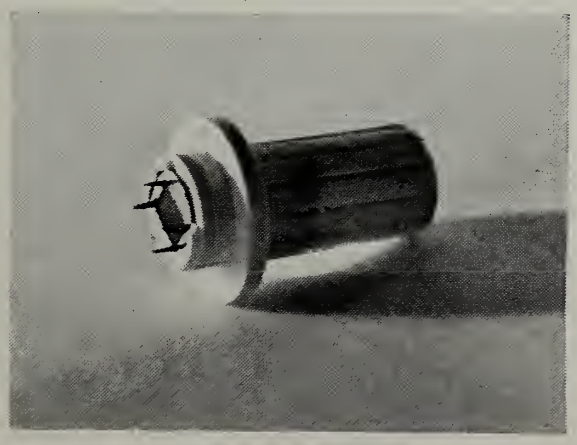

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THE MONTH IN WASHINGTON

President Johnson signed into law the social security legislation which included changes in medicare and medicaid advocated by the medical profession.

It provides for a record high minimum 13 per cent increase in cash benefits for 24 million Americans, starting in March. Beginning April 1, one dollar a month of the increase will be withheld from the checks of those participating in voluntary Plan B of medicare which covers part of physician fees and other medical services other than hospitalization.

The total premium for Plan B insurance is now $6 a month, half of which is paid by the federal government. Beginning April 1, the premium will be increased to $8, with the government paying $4 and the participant $4.

According to HEW, about 20 cents of the $1 increase was needed to cover costs which were originally underestimated. Another 25 cents would cover expected increase of use under the program. An anticipated 5 per cent increase in physician fees would account for another 25 cents, HEW said.

The social security taxable base also was increased, effective January 1, from $6,600 to $7,800. The tax rate for this year will remain the same as under the old law, 4.4 per cent on both the employee and employer and 6.4 per cent on self employed. Tax rate increases are set for subsequent years through 1987.

Changes in medicare and medicaid include:

MEDICARE

—Payment of physician fees is authorized either to the patient on the basis of an itemized bill, either unpaid or receipted as paid, or to the physician under the assignment method.

—Payment is authorized for full reasonable charges for radiological or services furnished by physicians to hospital inpatients.

—Hospital outpatient diagnostic services are transferred from the hospital insurance program (Plan A) to the supplementary medical insurance program (Plan B). The change was designed to simplify the procedure for paying benefits for hospital outpatients.

—The requirement of physician certification of the medical necessity for admission to general hospitals and for hospital outpatient services was eliminated.

—Medicare beneficiaries are given a lifetime reserve of 60 additional days of hospital care after the 90 days covered in a spell of illness. The beneficiary must pay the first $20 per day for the additional hospitalization.

—The Secretary of HEW was directed to study and report to Congress by January 1, 1969, the effects of covering drugs under medicare and of establishing quality and cost standards for drugs provided under social security health programs.

—Services of podiatrists are authorized under medicare to the extent that a state's law permits, but routine foot care is not covered.

—Outpatient services furnished by physical therapists are authorized within certain limitations.

—The Secretary of HEW was directed to study and make recommendations of adding services of chiropractic and optometrists to Plan B.

—Payment is authorized under Plan B for diagnostic x-rays taken in a patient's home or a nursing home.

MEDICAID

—States are limited in setting eligibility income levels for federal matching purposes.

—States are given until January 1, 1970, to buy-in medicare Plan B insurance for aged medicaid beneficiaries.

—States are authorized to make direct payments to medicaid beneficiaries for physicians'

and dentists' services if the beneficiary is not receiving cash assistance.

—States are permitted to select either the five basic health services, or seven out of the 14 authorized, for the medically indigent. The basic five must be provided for those receiving welfare cash benefits. The basic five are: inpatient hospital services, outpatient hospital services, other laboratory and x-ray services, skilled nursing home services and physicians' services.

—States must license administrators of nursing homes and set minimum nursing home standards if these institutions are to be eligible to participate in the medicaid program.

—States must establish methods and procedures to safeguard against unnecessary utilization of health care services and to assure that payments for such services and drugs do not exceed reasonable charges.

Under the program for Aid to Families with Dependent Children (AFDC), states now must offer birth control services to appropriate beneficiaries with acceptance on a voluntary basis. Authorizations for federal financial aid for maternal and child health programs are increased. Services of optometrists are added to child health programs.

* * *

Dr. James L. Goddard, commissioner of the Food and Drug Administration, estimated that about 300 drugs, marketed under 1,600 brand names, will be forced off the market because of ineffectiveness for treatment of medical conditions.

An evaluation of some 3,000 drugs placed on the market from 1938 to 1962 was started in June, 1966. It is being conducted by 29 panels of 200 medical and pharmaceutical specialists under the direction of the National Academy of Sciences-National Research Council. With the first panel reporting in January, the last report is due in mid-1969.

The FDA assigned the evaluation to the academy following passage of the Kefauver Drug Law in 1962. The law's main thrust was to give FDA power to pass on the efficacy as well as the safety of drugs marketed after 1962, but a provision authorized the government to review drugs already on the market.

* * *

The federal government has licensed a live, attenuated mumps virus vaccine especially recommended for adolescent and adult males who can become sterile from the relatively innocuous childhood disease.

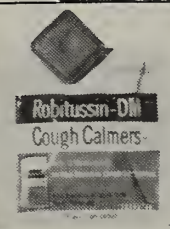
The vaccine, developed over a five-year period by the Merck, Sharp and Dohme Research Laboratories, was not recommended for routine use in infants and young children pending development of more information on the duration of the immunity it provides.

Dr. William H. Stewart, U. S. Surgeon General, said excellent protection against naturally occurring mumps has been observed for the first year after the single-infection live vaccine.

"But limited data on natural exposure during the second year indicate continuing protection although additional observation will be required to determine the duration of immunity protection," he said.

LEGISLATION OF INTEREST TO MEDICINE

More than 1,100 bills of interest to the medical profession were introduced in the first session of the 90th Congress as compared with only 850 during the similar period of the previous Congress. Bills of interest to medicine that were passed by Congress included: Social Security Amendments; Mental Health Amendments; Vocational Rehabilitation Act Amendments; Air Quality Act; Mental Retardation Act Amendments, and Flammable Fabrics Act Amendments.



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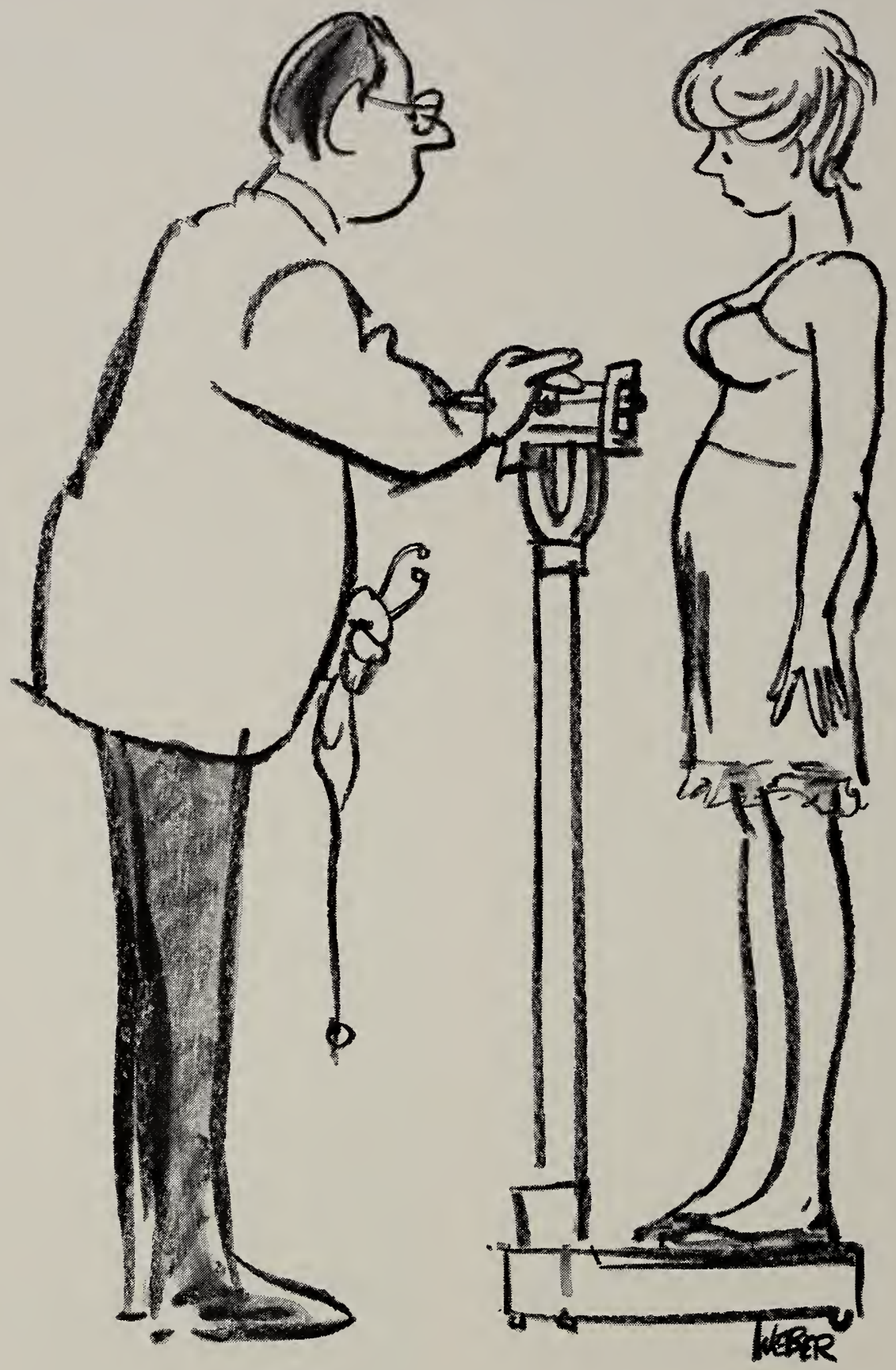

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News Notes • Changes • Births • News

Pop's Proverb

No garden of memories is ever completely free of weeds.

January 3, 1968 the physicians of the 11th District met at the Mobridge Country Club for **Dr. Stransky's** official visitation.

* * *

John Stransky, M.D. met with the 4th District Medical Society in Pierre on January 2, 1968. Fourteen physicians heard Dr. Stransky speak on the services which are available from the state office, and the Federal health programs which now confront Medicine.

* * *

The American Medical Association has reappointed **Arthur A. Lampert, M.D.,** to the Council on Legislative Activities.

* * *

A. P. Reding, M.D. has been reappointed to the American Medical Association's Council on Rural Health.

* * *

Alonzo P. Peeke, M.D. was chosen to serve on the Committee on Medicine and Religion of the American Medical Association.

* * *

Max Reade, M.D., Yankton, addressed the Slim Tops Club on the disadvantages of being overweight.

Drs. J. O. Mabee and **O. J. Mabee** have moved into their new clinic at Third and Sanborn in Mitchell.

* * *

Dr. R. H. Allen, Rapid City, addressed the local Optimists Club with respect to the new ear operations which are now being performed.

* * *

E. H. Heinrichs, M.D. has been reappointed Codington County heart fund Chairman. **G. E. Tracy, M.D.** is chairman of the Heart Council.

* * *

A "Cancer Conference for Educators" was held at South Dakota State University with **Francis McCabe, M.D.,** Brookings giving the lecture.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

John J. Stransky, M.D. spoke to Watertown Rotarians and explained that the degree of involvement of the Federal Government in the medical-care field depends upon the will of the people as expressed through Congress.

* * *

Educators met at Yankton College to hear **Brooks Ranney, M.D.** speak on the medical aspects of cancer.

* * *

The 1st District Medical Society met on December 6, 1967 and elected: **Wm. Taylor, M.D.** as President; **Geo. McIntosh, M.D.,** Vice President; and **David Seaman, M.D.,** Sec.-Treas.

* * *

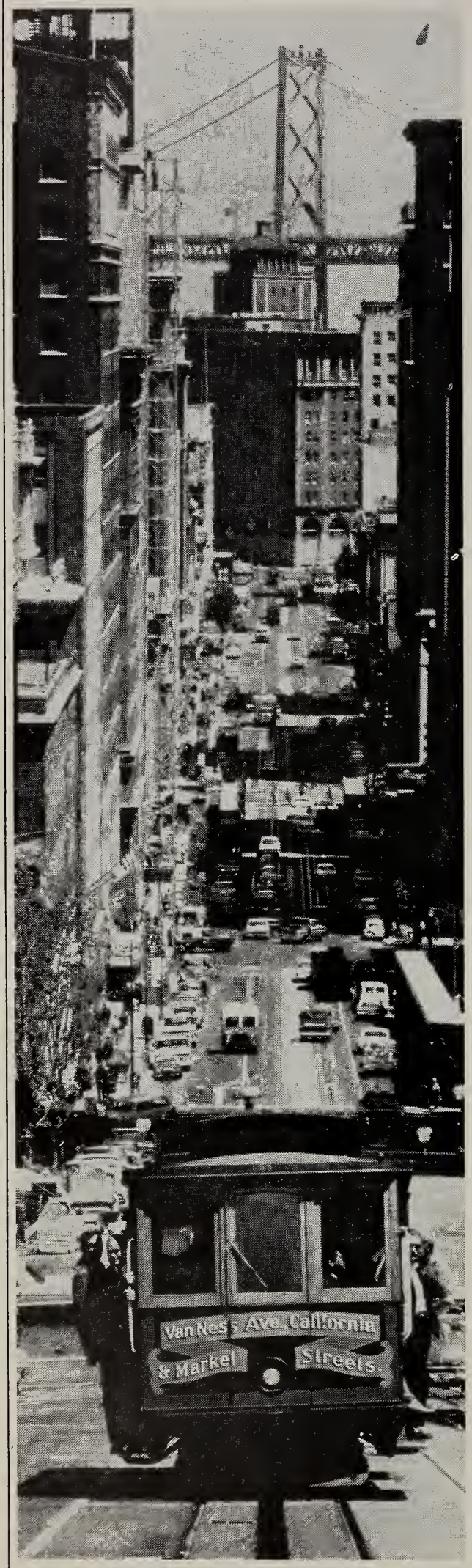
Dr. and **Mrs. M. J. de Almeida** and family have left Viborg for their new home in Ft. Lauderdale, Fla.

* * *

L. C. Askwig, M.D. was the guest speaker at a Cancer Workshop for Nurses held in Pierre. **Dr. B. O. Lindbloom** was the moderator of a panel which discussed the impact of cancer on the patient and family.

* * *

Dr.'s Vincent K. Cutshall, B. J. Williams, V. V. Volin, and **Warren Anderson** composed a panel which discussed drug abuse. The panel discussion was a part of the Sioux Empire Medical Assistants Meeting.



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The complete scientific program, plus forms for advance registration and hotel accommodations, will be featured in JAMA, May 6, 1968.

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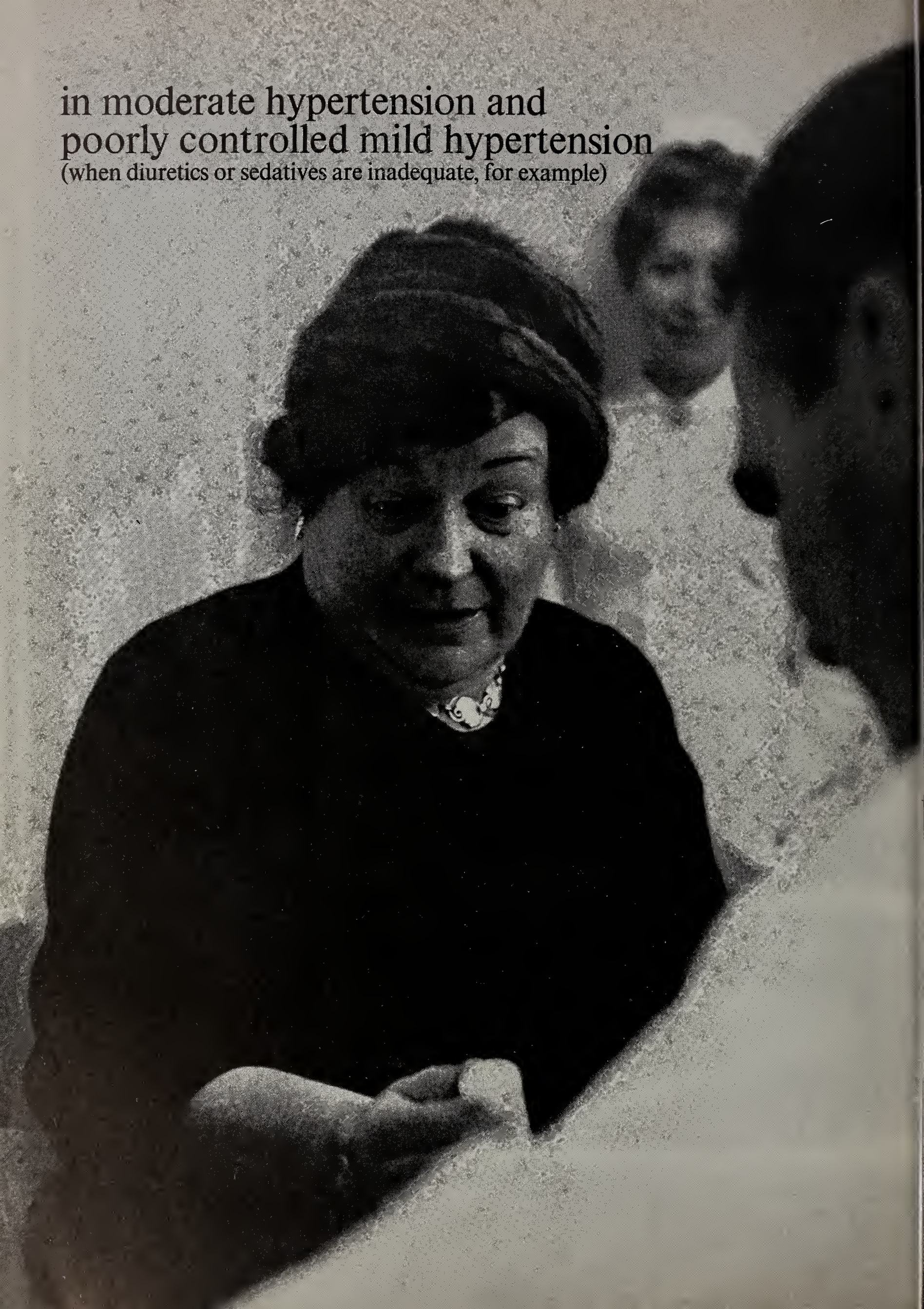

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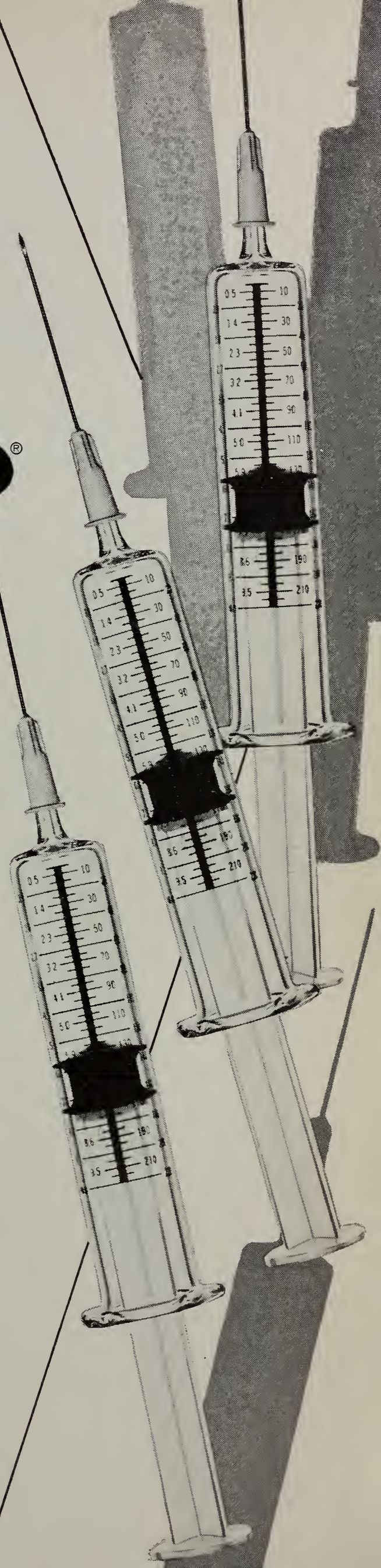

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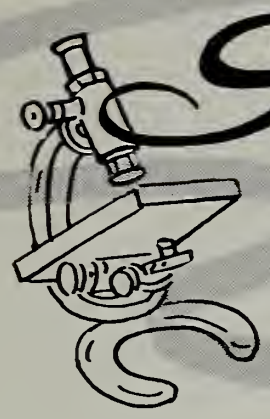

Scientific PAPER

A CLINICAL EVALUATION OF THE EVERTED INTESTINAL ANASTOMOSIS

G. Robert Bartron, M.D. and David F. Piro, M.D.**

It has long been recognized and accepted that there are several different ways to approach a similar surgical problem. It is with this fact in mind that the subsequent paper has been developed. In reviewing the surgical literature it was noted with interest that there are advocates of a number of different ways of anastomosing intestines and all hollow organs.

Since Lembert[1] first popularized the serosa-to-serosa repair in 1826 there has been little major controversy until recent years as to which is the best manner in which to anastomose intestines or hollow organs. Current surgical training programs and standard surgical textbooks continue to advocate Lembert's technic at the present time. It has been consistently advocated that intestinal healing is only possible by inverting serosa-to-serosa type of intestinal closure which was dependent upon bactericidal and fibrinogenic properties of the peritoneum for healing. This most likely was originally based upon the works of Bichat and Travers who noted that fewer adhesions occurred after mucosa-to-mucosa repair than after the serosal inverting procedure. Halsted[2] in 1887 was probably the first clinician to dispose of this belief when he demonstrated that the submucosa layer and not the serosa layer of the intestine was the true holding layer in intestinal repair. Healey[3] and his associates more recently questioned the dictum of the serosa repair when in a series of experiments utilizing mongrel dogs they found that no difference in healing occurred whether the anastomoses were inverted, everted or end-on. He and his associates concluded that all types of anastomoses could be safely used.

Since the advent of intestinal resections and anastomoses there has always been the concern that when intestinal mucosa was left exposed within the peritoneal cavity the possibility of fistulae or mucocele was prominent. This concern can be challenged by the fact that for many years surgeons have been performing appendectomies by the simple ligation of the appendiceal stump without any clinical evidence of fistula or mucocele. Weinberg[4] and his associates in 1963 reported a series of more than 1,000 pyloroplasties done in the everted manner without the complication of suture leak or mucocele. Getzen[5] and his associates in their animal experiments found that within 24 hours serosal cell proliferation covered the fibrin seal of the anastomoses irrespective of whether the anastomoses was inverted or everted. When using the mucosal everting technic within four to seven days the everted mucosa was replaced by fibrous tissue and by the 14th to the 21st day regression was complete. Getzen,[6] also, to our knowledge, is the first surgeon to use this mucosal everting technic in all of his clinical intestinal anastomoses. He reported a series of 136 gastrointestinal anastomoses with only one leak which occurred in an elderly debilitated patient with adenocarcinoma of the stomach and in this case the patient ultimately died as a result of anastomotic

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leak. Included in his works were 20 hemigastrectomies and vagotomies for peptic ulcer diathesis. Eight of these patients were gastroscoped six to twelve weeks postoperatively and were compared with a control group of ten patients who had had a more conventional inverting type of gastroduodenostomy anastomosis. All of the control group of ten patients who had had the inverting type of anastomosis in the gastroduodenostomy were observed to have retention of ingested food after 12 or more hours of fasting, whereas this occurred in only one patient in which the mucosal everting technic was used. In addition, 13 of the 16 patients having the inverting anastomotic type of repair demonstrated hypertrophic rugae, hyperemia and edema at the suture line. Similar findings however were remarkably less frequent in the patients that had had the mucosal everting type of anastomosis. In three patients who required a low anterior colon resection anastomosis using the mucosal everting technic, sigmoidoscopy revealed no significant abnormality of the mucosa adjacent to the suture line.

METHODS and MATERIALS

To date we have performed 90 anastomoses on 65 consecutive patients using the everted mucosa-to-mucosa technic. There has been no selection as to age, surgical problem or general condition of the patient. The average age was 61 years, ranging from 12 to 89 years of age. Followup evaluation has been one to twelve months. The surgical procedures involved are listed in Figure 1.

Figure 1.

pyloroplasties	27
enteroenterotomies	12
ileocolostomies	5
colocolostomies	10
enterotomies	4
choledochoduodenostomies	3
Billroth II gastrojejunostomies	2
gastrojejunostomies	4
Billroth I gastroduodenostomies	3
duodenal stump closure	2
jejunal stump closure	3
pyloromyectomy	1
duodenojejunostomy	2
esophagotomy	4
cecotomy	1
Meckel's diverticulectomy	2
Poth pouch (side-to-side jejunojejunostomy)	2
choledochojejunostomy	1
duodenotomy	1
esophagogastrostomy	1

The anastomotic technic utilized in repairing and uniting all hollow organs of the gastrointestinal tract at all levels was essentially the same. Interrupted No. 3-0 silk sutures and a single layer mucosa-to-mucosa everting through-and-through approximation was used with each suture being placed approximately 2 to 4 mm. deep and 2 to 3 mm. apart. Figures 2 to 4 demonstrate the Billroth II technic, the anastomosis of the small and large intestine and the technic for a low anterior colon resection.

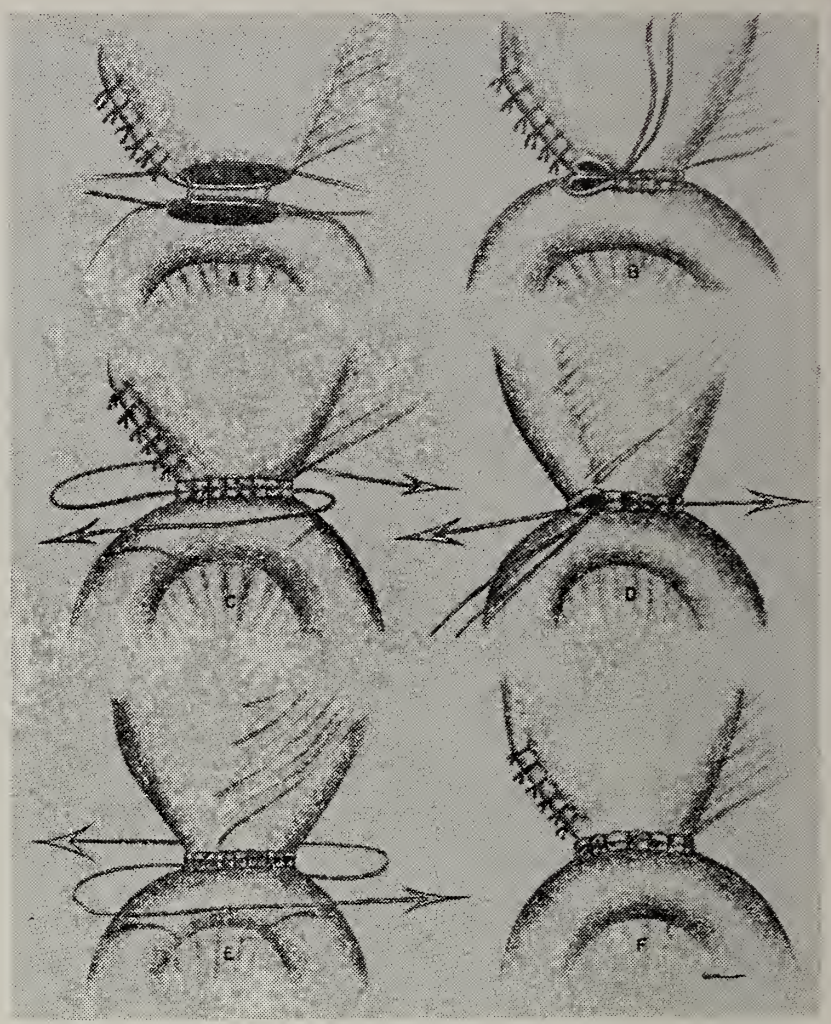

Fig. 2. Billroth II technique. A, A suture is placed in the lateral edges, approximating the 2 stomas, tying the suture, leaving the ends long, as stay sutures. B, The 2 lateral sutures are placed on tension and the presenting anterior surfaces of the stomas are bisected with a through-and-through No. 4-0 silk suture 3 to 4 millimeters deep. Then each side of the anterior quarter of the stomas is bisected. If further bisection is necessary, it is performed. C, One end of a lateral suture is placed posterior to the anastomosis and is pulled in its passed direction, thus rotating the posterior wall anteriorly. D, Once rotated and under direct vision, the posterior half of the anastomosis is closed in the same manner as the anterior half. E, The stay sutures are passed in a reverse direction and the intestine becomes untwisted. F, Completed anastomosis.

In all areas where the anastomosis could not be completed without rotating the bowel or hollow organ a posterior row of anastomotic sutures were all placed prior to being tied individually. This particularly applies to the Billroth I type of gastroduodenostomies, low anterior colon resections and anastomosing the bowel to the common bile duct. This technic also applies to closure of the difficult duodenal stump where it is virtually impossible to perform the standard multilayered closure. In upper intestinal and gastric surgery it is our

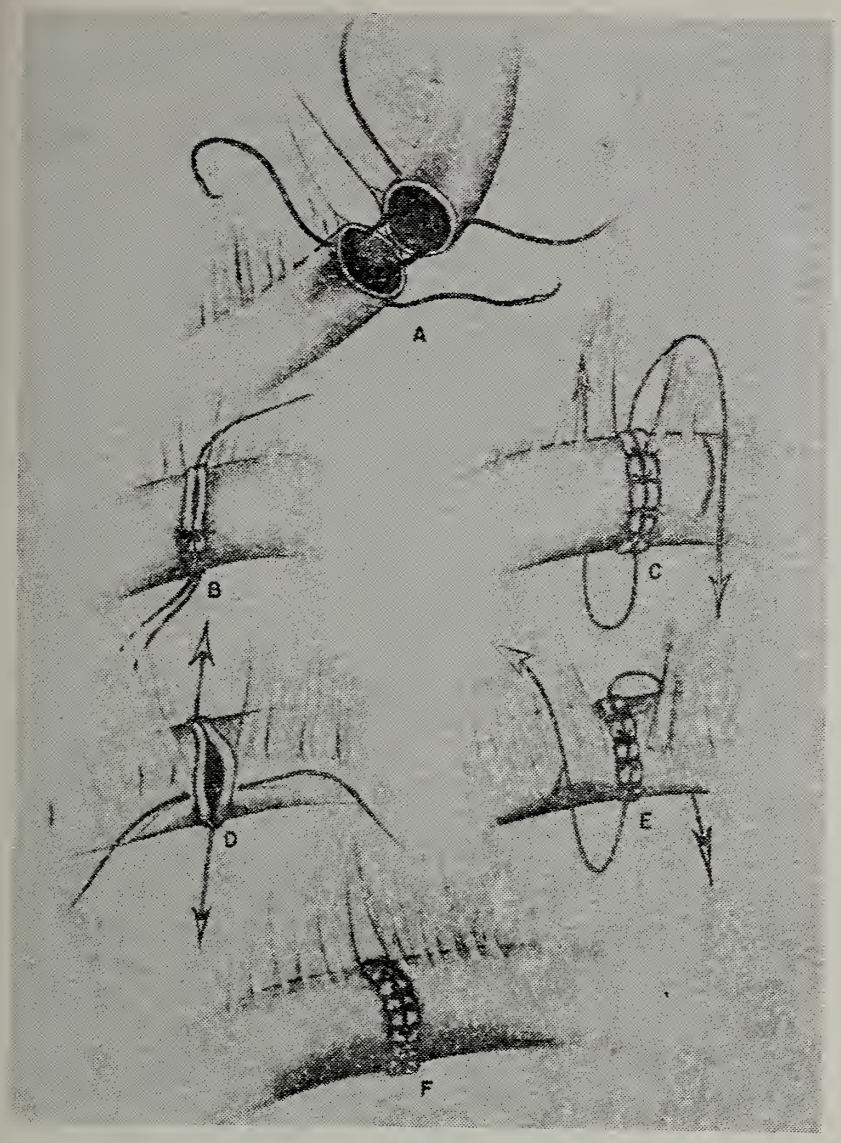

Fig. 3. Technique of anastomosis of the small and large intestine. Approximations of the small and large intestine are similar to the Billroth II closure (Fig. 2).

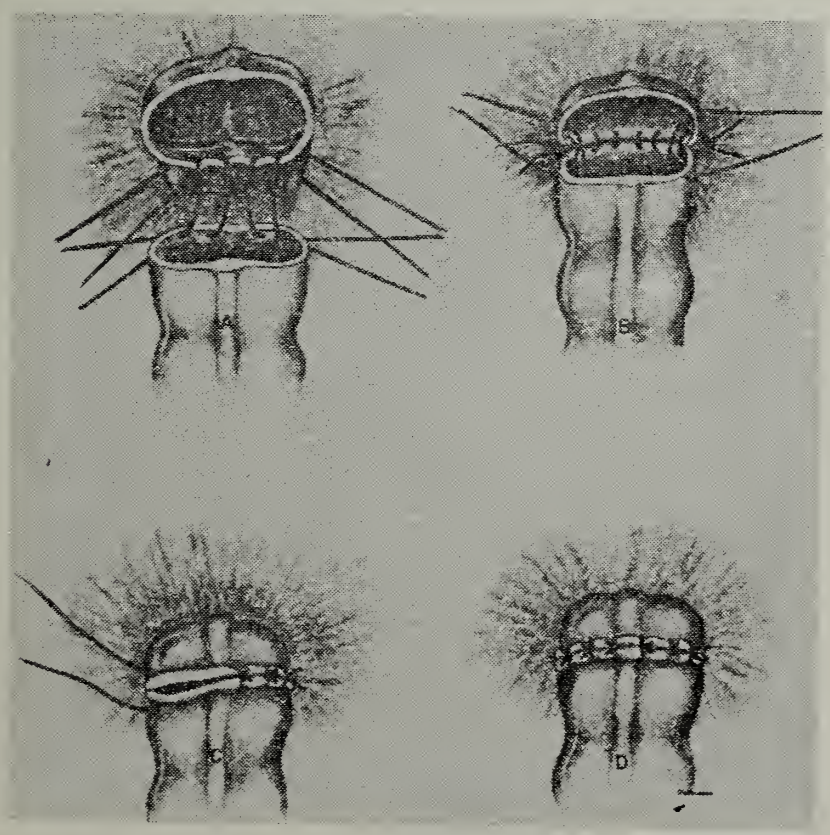

Fig. 4. Technique for low anterior resection anastomosis. A, The sutures in the lower segment of the posterior wall are placed from without to within, and in the upper segment from within to without. B, Only after all sutures are positioned in the posterior half of the anastomosis are the sutures tied, producing an everted closure. C, The anterior half is then closed in the same bisecting manner as previously described. D, Completed anastomosis.

usual policy to perform a Billroth I gastroduodenostomy wherever possible. On the two occasions where this was not technically feasible because of the narrowing of the remaining lumen or because of the regional inflammatory reaction the everted technic was used with excellent results.

RESULTS

In this series of 90 gastrointestinal anastomoses there was only one instance of a demonstrated and proved anastomotic leak which subsequently resulted in the death of the patient. This occurred in an 89-year old Caucasian female who had a large obstructing adenocarcinoma of the distal one-third of her stomach. For six weeks prior to surgery she had only been able to take liquids and during this period had lost more than thirty pounds. At the time of her hospital admission her hemoglobin had depleted to 5 grams. Her total protein was 3.0 mg. percent. After the usual preoperative preparation including intravenous hydration and blood replacement she was taken to surgery and at laparotomy a far advanced adenocarcinoma of the stomach with marked liver and regional nodal metastases was found. A palliative resection was carried out to relieve the obstruction and a Billroth I type of gastroduodenostomy in the everted technic was accomplished with no difficulty. This patient did well until the 7th postoperative day when she was noted to have bile-tinged drainage from a drain site. Subsequently a leak at the suture line was demonstrated by an oral gastrografin study. From this point on the patient gradually deteriorated and expired two months postoperatively. A post mortem examination was refused.

In one other case there was a suspected suture line leak but it could not be positively demonstrated. This occurred in a 12-year old Caucasian male who initially had an appendectomy for a perforated appendix with a generalized peritonitis. Postoperatively this young patient developed marked abdominal distention despite the usual supporting measures including continuous nasogastric suction. After further deterioration of the patient with continued abdominal distention a gastrografin nasogastric tube upper G.I. study was carried out on the 9th postoperative day and the films revealed a complete obstruction in the region of the distal ileum. He was then returned to surgery where upon laparotomy a large abscess involving the pelvis and the leaves of the mesentery in the distal ileum was found. Approximately 2000

cc. of purulent exudate was removed from the abdominal cavity and upon culture revealed a predominance of E. coli organisms. Four feet of the distal ileum was involved in a solid inflammatory mass with marked serosal disruption and was resected. The anastomosis was accomplished by utilizing the mucosal everting technic. Postoperatively this patient gradually improved and by the 4th postoperative day he was expelling flatus and resuming oral feedings. On the 9th postoperative day a small amount of drainage from his stab wound was suggestive of fecal contamination. A fistula however could not be confirmed by gastrografin studies and no further drainage of this nature occurred. He rapidly recovered and was discharged.

Unlike Getzen and his associates, we adhere to the use of nasogastric suction postoperatively, and intravenous supportive therapy, until the patients show demonstrable evidence of return of intestinal function by virtue of active bowel sounds and the expelling of flatus. As a result of this we have no direct knowledge as to whether these patients in our series could have resumed their dietary programs sooner with the everted anastomotic technic than with the inverted or standard closure. Getzen advocates removing the nasogastric tube on the first postoperative day with the resumption of a liquid diet on the second postoperative day and progressing to a soft or bland diet on the third postoperative day. In his series, using this regimen, the resumption of intestinal function occurred on an average of 2.5 days sooner than the patients handled in the same manner with the inverted anastomotic technic.

DISCUSSION

Irrespective of what type of anastomosis is used in repairing hollow intestinal organs, the healing of the intestinal suture line depends upon several factors: (1) adequate blood supply, (2) the absence of distal obstruction or generalized ileus, (3) nutrition of the patient and (4) the avoidance of tension at the suture line. Vascular impairment to the anastomosis may well result from the stripping of too much periluminal fat or failure to preserve an adequate arterial blood supply at the level of the anastomosis when dividing the mesentery. Increased tension and subsequent poor blood supply may result from an ileus, torsion of the mesentery or insufficient mobilization of the intestine. Obviously if the patient's nutritional status is poor healing will be delayed and in any single instance or combination of these problems an anastomotic leak may result.

It has been variously reported that from 2 to 7% of patients will have an obstruction after the routine, usually accepted gastrojejunostomy or gastroduodenostomy done in the inverted manner. How often this occurs to a lesser degree is not known but it must be assumed that in a significant percentage of patients subjected to these procedures this may well be a factor in their continuing symptomatology postoperatively. Also recurrent ulcer formation may well be associated with this complication.

In our series of cases the postoperative obstruction of an inverted type of anastomosis was graphically demonstrated. A 63-year old Caucasian male had been operated on at another hospital five days prior to admission for reason of a mesentery thrombosis with a small segment of his distal ileum being resected and his anastomosis accomplished in the usual two-layer inverting manner. Postoperatively this patient did poorly and began pouring serosanguinous fluid from the abdominal wound. He was referred to our surgical section and was re-explored and at laparotomy was found to have 8 ft. of gangrenous proximal ileum which was resected. In the distal ileum where the previous inverting type of anastomosis had been accomplished there was complete obstruction at the suture line where the inverted type of anastomosis had been carried out. Examination of the specimen postoperatively allowed only a small probe to be passed through the site of anastomosis. It has been grossly apparent at surgery in the cases where re-exploration has been possible for one reason or another that there is a much larger anastomotic channel with the everting technic than with the inverting closure method. This is especially important to the occasional abdominal surgeon who by virtue of his technic may inadvertently fold and invert too much intestine resulting in a higher incidence of obstruction and compromise of the anastomotic site as well as the attendant infection resulting from the flange of inverted intestine.

It appears to us that the everting technic will almost always insure an adequate anastomosis and an anastomotic channel. In our experience the everted technic has many definite advantages. (1) It is not necessary to strip the periluminal fat from the bowel wall because it remains external to the anastomosis thus saving time and helping to preserve the vascular supply to the segment of bowel being anastomosed. This is especially true in colon surgery and particularly in lower anterior anastomosis of the

colon. (2) Hemostatis is under direct vision and no instance of postoperative suture line hemorrhage has been noted in our series. (3) Decreased total operating time which is particularly important in the elderly or debilitated person. (4) A consistently wider luminal anastomotic diameter occurs in this type of anastomosis and results in decreasing the number of postoperative stenoses with its attendant prolonged morbidity even though in other types of anastomosis ultimate normal function may well return. (5) Earlier resumption of intestinal function routinely results as compared to the inverted anastomotic technic.

SUMMARY

The single layer mucosa-to-mucosa everted technic of repair of all hollow organs within the intestinal tract has been used in 90 consecutive cases. There has been one proven suture line leak resulting in one fatality. This was in an elderly woman in extremely poor nutritional state with a far advanced adenocarcinoma of the stomach. There was one other suspect suture leak which could not be demonstrated or proven by x-ray examination. It is our conclusion that this technic has definite merit providing greater intestinal diameter at the anastomotic site than those anastomoses completed with the usual inverted technic. It warrants continued clinical use with closer attention being paid to the resumption of postoperative elimination and bowel function. This technic is also attendant with a much shorter operating time and demonstrable decreased postoperative morbidity.

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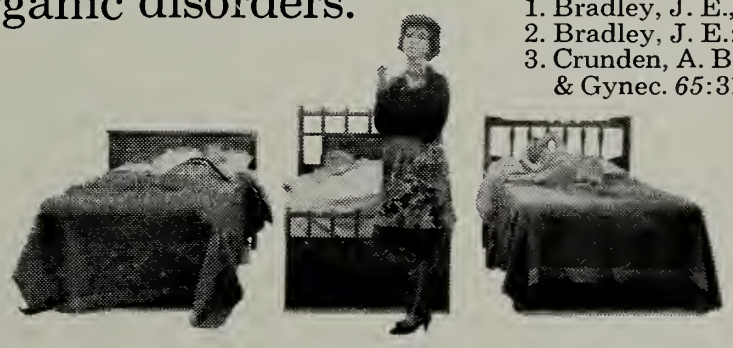

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THE SURGICAL TREATMENT OF THE CRYPTORCHID TESTIS*

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Sioux Falls, South Dakota 57105

There are few conditions in children's surgery which have given rise to more controversy than maldescent of the testis. This has been caused, in some measure, by confusion in terminology; it has also been caused by difficulty in demonstrating the retractile type, in which the testis is intermittently but not continually out of the scrotal sac. The crux of the problem of treatment, rests upon differentiating the spastic retraction of the testis from the true cryptorchid.

The retractile or spastic testes are found in a great many babies, and less frequently with advancing years up to puberty. Many of these children's testes are usually in a normal position and are only infrequently drawn up out of the scrotum by the cremaster muscle. There is a real problem, however, when the cremaster muscle on each side is **so** hyperactive that each testis is drawn up to the external inguinal ring or even into the inguinal canal at the slightest stimulus. Sometimes it is difficult to be satisfied that these yo-yo testes are **ever** down, although the size of the scrotum suggests, that at times, they occupy their normal position. In obtaining information, as a rule, the youngster has not been interested and is not aware whether the testes have at any time been in the scrotum. The father seldom contributes any worthwhile information. The mother is the one concerned and she has usually observed the youngster, and knows whether the testes have **ever** been descended.

After the patient's confidence has been gained, the best way to find these fugitive testes is to get him to cough and then to stroke with a warm left hand along the line of the inguinal canal. If the testis appears, it can be pushed down toward the pubis, seized by the right hand and drawn into the scrotum. If repeated examinations fail to find either testis, and yet the scrotum seems reasonably capacious, it is worthwhile examining the child in a hot bath or when asleep in a warm bed. Such circumstances lull the suspicious cremaster and the testis may be discovered resting gently in the scrotal sac. If spastic retraction of the testis has been demonstrated, no treatment is indicated. These testes develop normally and by the time of puberty, or before, will take up their permanent residence in the scrotum.

Among the indications for surgery, on an undescended testicle, are first, and foremost, to preserve its reproductive function. Recent work indicates that after the age of 6 years the cryptorchid testis undergoes progressive tubular degeneration. Biopsy studies made before and after surgical correction have led most urologists to advocate the placement of the testis in the scrotum by the time the child is old enough to start school. This advice is not universally accepted. The increased ease of surgical procedures in older children with larger structures

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* Read by James H. Hoskins, M.D., before the South Dakota Chapter American College of Surgeons, Huron, South Dakota, February 1967.

is advanced as a reason for delaying treatment. It is a dubious decision which rests upon surgical convenience for the operator and not upon the welfare of the patient.

Other indications for surgery are infrequent complications which include a higher than normal incidence of testicular torsion in the undescended testicle as well as a slightly higher incidence of trauma to the testicle. I have not seen any distressing emotional disturbances in young boys that could be traced to the absence of the scrotal testis, but this has been reported.

Testicular malignancy in children is extremely rare. The usual age for carcinoma of the testis is in the 20's and 30's. It is stated that neoplasm is 20 to 50 times more liable to appear in undescended testes than in those that have **always** resided normally in the scrotum. Placing the cryptorchid testis in the scrotum does not change the incidence of malignancy. Skepticism may be expressed regarding the accuracy of these statistics, since numbers of neoplasms are **not** matched against numbers of undescended testes in the **same** series of cases. Instead, the total number of neoplasms, as gathered from the literature are matched against that number of undescended testes assumed to exist in the country.

There is less danger of malignancy developing in an undescended testicle than there is in a normal female breast. It would follow that the undescended testicle cannot be looked upon as a pre-cancerous lesion. Nor can one accept the objective of bringing the testis into the scrotum, for the purpose of having it available for palpation.

One other reason which has been advanced for the placement of a cryptorchid testis in the scrotum, is the cosmetic or social advantage to be derived. A silicone rubber replacement provides this benefit with greater surgical ease. Another and more ancient usage of the testicles was the practice in Biblical times of making an oath while placing a hand under the scrotum of the person to whom the promise was made, probably as an invocation of the posterity, which should proceed from the testicles, to guard the oath and avenge its violation.[1] To bring this ancient custom to the modern day, it may be suggested that if someone has you by the testicles, his act has both religious and historical precedent.

The use of gonadotropins constitutes a method of diagnosis of retractile testicle, rather than definitive treatment of the cryptorchid organ. It has been evident from the surgical dissection necessary to mobilize the cryptorchid testes and cord structures, that the use of hormones would be futile. In our experience, administration of hormones has contributed nothing of value. In the unilateral cryptorchid, it is obvious that the failure of the one testis to descend could not be the result of hormonal deficiency. A unilateral undescended testicle with a normally descended testicle on the other side, has no proven effect on fertility. The best reason for orchiopexy in these boys is to obtain a functional "spare." Libido and virility are not affected by cryptorchism.

The primary purpose of this communication is to call your attention to two of the older contributions to the technique of the surgical treatment of undescended testicle. The first of these, is an article by Charles Davison, who was professor of surgery and Clinical Surgery, College of Medicine, University of Illinois.[2] This was published in Surgery, Gynecology, and Obstetrics in 1911. Dr. Davison reasoned that, in the undescended testicle, whatever the congenital defect may be, the mechanical cause is the shortness of the cord. (Fig. 1) If the spermatic vessels and the vas deferens may be transplanted without functional injury so they come together at the location of the external ring instead of the internal ring, the cord would then be long enough to permit the testicle to rest easily in the bottom of the scrotum. He proposed such an operation and pointed out that the vas deferens has ample length because it drops down into the pelvis after passing through the internal inguinal ring forming a

Figure 1.

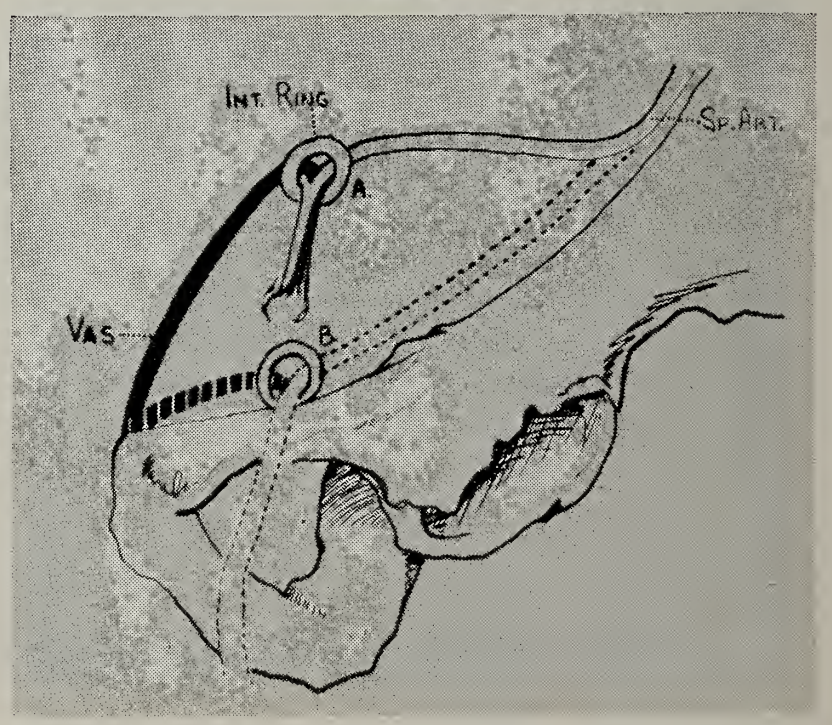


Diagram showing method of lowering the spermatic cord by change of position of the spermatic vessels and vas deferens (Figs. 1-2, modified from Davison).

loop separated only by transversalis fascia. The shortness of the spermatic **vessels** is the real cause of the difficulty in all operations for undescended testicle. Dr. Davison overcame this by dividing the inferior epigastric vessels and incising the posterior wall of the inguinal canal from the internal ring to the pubic bone. The vas deferens was then dissected free and the spermatic vessels were dissected from the peritoneum. Attention was called to the fact that the length of the vessel was gained by following the long side of a triangle instead of both short sides. (Fig. 2) To those of you who have been interested in this subject, this presentation may sound familiar. In 1955, 44 years after Dr. Davison's presentation, Dr. Prentiss and his associates published the same technique, and have since publicized it, apparently without being aware of duplicating Dr. Davison's contribution.[3]

Figure 2.

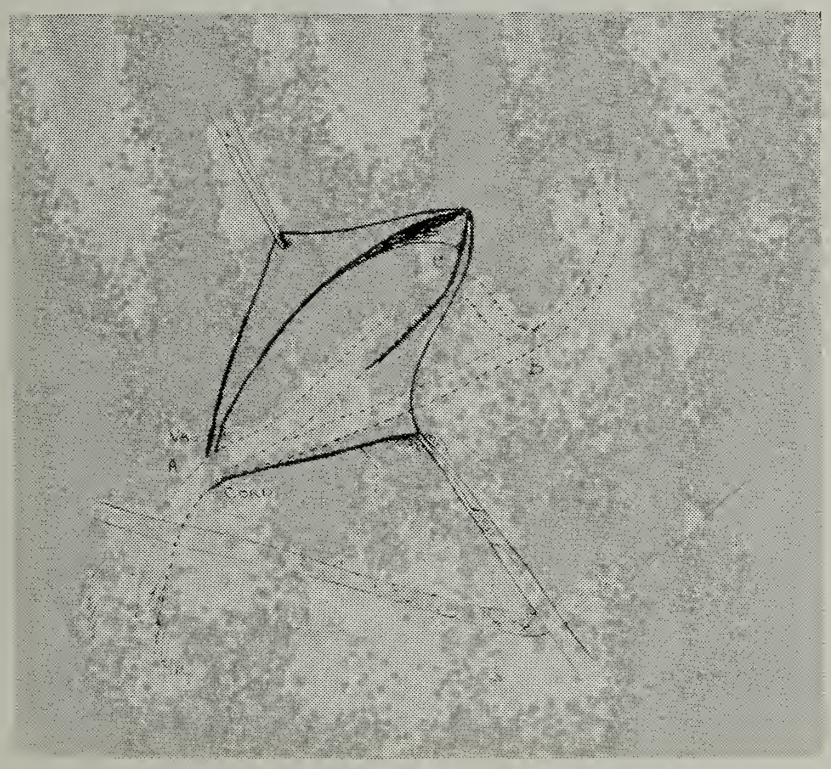
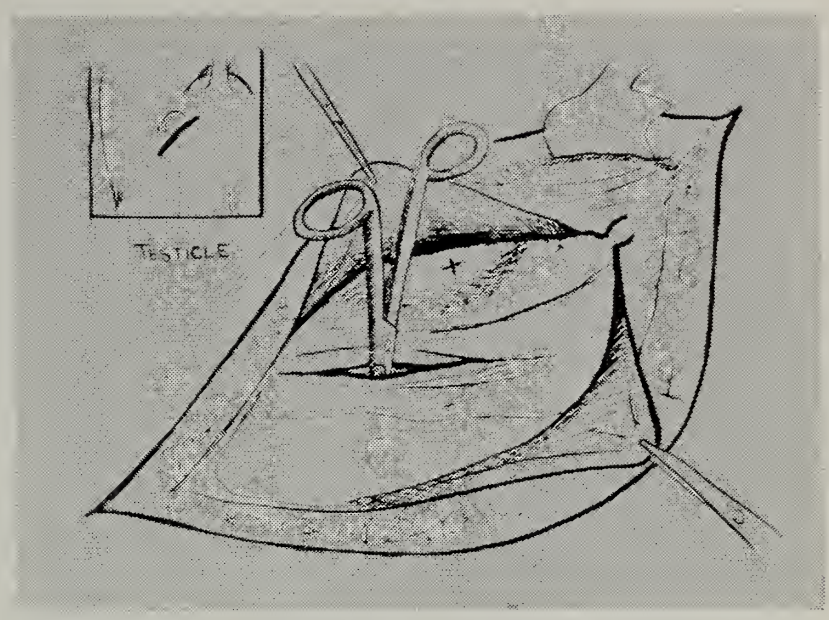


Diagram of the transplantation of vas deferens and spermatic vessels, lowering the cord the difference between BA and BCA.

The second communication, to which I call your attention, is one which appeared in the Annals of Surgery in August of 1931. This was written by G. Paul LaRoque, of Richmond, Virginia, who was in the department of surgery at the Medical College of Virginia. He advocated the retroperitoneal mobilization of cord structures through a muscle splitting incision.[4] (Figs. 3 & 4) Dr. LaRoque originally proposed this approach in order to provide a ready identification of the hernial sac, and an intraperitoneal access for its removal. In operating upon undescended testicles, one may take advantage of both of the basic contributions just

Figure 3.



Operation for undescended testicle. The aponeurosis has been split, showing the position of the testicle in the inguinal canal, and the internal oblique fibres are being split preliminary to holding up the peritoneum just above the inguinal canal. (Figs. 3-4, modified from LaRoque).

Figure 4.

The fibrous bands between the vas and vessels of the cord and the peritoneum are being divided. The scrotum is being stretched inside to make a pocket for the testicle.

discussed. First, Dr. Davison's rationale in obtaining cord length, and second, Dr. LaRoque's method of mobilizing the cord structures. The method we follow is to divide the external oblique in the direction of its fibers well above the internal ring; opening the inguinal canal. The testicle and cord are freed up to the internal ring. An incision is made from one to one and a half inches above the internal ring, through the aponeurosis of the internal oblique at the edge of the rectus muscle. Forceps are inserted and opened, separating the fibers of the internal

oblique and transversalis in muscle splitting fashion. The index fingers enlarge this incision for an ample and bloodless exposure. The peritoneum is freed from the lateral wall, the testicle and cord are then brought through the internal ring, retroperitoneally and held up so the vas deferens may be easily separated from the peritoneum down deep in the pelvis, and the spermatic vessels likewise separated from the peritoneum up as high as need be done. If one **wishes,** the inferior epigastrics may be divided between ligatures and the transversalis fascia, comprising the posterior wall of the inguinal canal, incised down to the pubic bone. We usually avoid their division by passing an index finger **behind** these structures down to the pubis. Incision is then made over the finger, a forceps introduced at the tip of the finger, and then carried back so the tissue at the lower pole of the testis may be grasped and drawn along the new route, which provides the increased length of the cord, necessary to bring the testis into the scrotum, without tension. Transeptal scrotal fixation can be utilized or a traction suture is placed through the dependent portion of the scrotum from the lower portion of the testicular tunica and this is attached by a rubber band to adhesive on the opposite thigh. Closure may be accomplished by whatever method one elects, providing it is anatomically sound, and eliminates the internal ring. Moderate rubber band traction is maintained for about a week, not because the cord requires stretching, but simply to insure that the testicle will become fixed in the bottom of the scrotum rather than carried up to the external ring by cremasteric contraction. **Transeptal** placement provides gentle but adequate fixation without immobilizing the patient.

In conclusion, (1) a brief review of the surgical problem of cryptorchid testis has been presented, (2) attention has been called to two fundamental contributions to the surgical treatment of the cryptorchid testis, and their combined utilization is suggested.

We would like to express our appreciation to Miss Karen Moore for the preparation of the illustrations.

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CARCINOMA OF HEAD OF PANCREAS*

Frank R. Denman, M.D.

CASE REPORT: The 36th case of five-year survival after surgery for carcinoma of the head of the pancreas is reported, and a relatively safe method of biopsy is described. Resection should be attempted when there are no evident distant metastases, no liver or regional lymph node involvement, and no direct fixation to the portal vein or superior mesenteric vessels.

THE PROGNOSIS FOR patients with carcinoma of the head of the pancreas, treated by any method, is poor. After diagnosis, survival in untreated cases is usually less than 18 months, and most patients survive only 6 to 9 months. There are periodic reports of patients who survived for long periods without resectional treatment. Most of these reports have concerned patients in whom histological diagnosis was not established. Differentiation of carcinoma from pancreatitis by gross findings at operation is difficult, and cases in which there is no microscopic proof of cancer cannot be accepted. Howard and Jordan described four previously reported patients with proven carcinoma of the pancreas who survived five years or more without treatment of the primary tumor. Generally, however, it may be assumed that without resection death is certain, and that only with resection is survival possible. Since Whipple described the technique of pancreatoduodenal resection for carcinoma of the head of the pancreas in 1935, five-year survival has been reported in 35 cases. An additional case is reported herein.

Case Report: A 70-year-old white man was admitted to Hermann Hospital Dec. 26, 1960, with upper abdominal pain and jaundice. Duration of these symptoms was three weeks, but he had experienced minor episodes of indigestion for about a year. Three weeks before admission, he developed increasingly frequent episodes of upper abdominal pain and intolerance to fatty foods. His skin and eyes had turned yellow, after which he noted light-colored stools and dark urine. Review of systems showed no abnormalities; he had not had any serious illness in the past and there was no family history of cancer.

Physical examination revealed an elderly white man with obvious jaundice. Blood pressure was 160/86 mm. of mercury; temperature 98.6 F.; pulse 64 and regular; and respirations 16. The sclera was icteric. There was moderately advanced resonance over the lungs. The heart was not enlarged, had a regular rhythm, and a systolic murmur at the apex. In the abdomen a firm, somewhat nodular, rounded mass in the right upper quadrant, extending two finger-breadths below the right margin, was thought to represent the liver. No other masses were palpable. Rectal examination showed no abnormalities. Laboratory studies disclosed these values: alkaline phosphatase, 22 Bodansky units per 100 ml.; amylase, 75 units per 100 ml.; prothrombin time, 69 percent; serum bilirubin, 15.8 mg. per 100 ml.; thymol turbidity, 5.6 units; hemoglobin, 12.7 gm. per 100 ml.; white blood cells, 6,100 with normal differential.

Roentgenograms of the chest, upper gastrointestinal tract, and colon were reported normal.

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Electrocardiogram revealed a right bundle branch block with probable ischemic heart disease.

A preoperative diagnosis of obstructive jaundice due either to common duct stone or carcinoma of the head of the pancreas was made. On Dec. 30, 1960, an exploratory laparotomy was carried out. Findings were normal except for slight enlargement of the liver, and there was a mass in the head of the pancreas. No local extensions nor metastasis to other organs were detected; the mass was considered to be removable. Accordingly, a pancreatoduodenal resection was performed with reconstruction following the technique of Waugh. The jejunum was anastomosed end to end to the body of the pancreas, and then an end-to-side jejunal anastomosis to the common duct and to the stomach was carried out.

The specimen was a small portion of the distal stomach, the duodenum, the head and neck of the pancreas, and the distal segment of the common bile duct. The distal portion of the common duct was dilated to a diameter of 2 cm. The head of the pancreas was firm and there was a poorly circumscribed mass within it. This mass obstructed the common bile duct and the pancreatic duct. Microscopically, the neoplasm was made up of acinar glands. The lining cells were columnar with darkly staining nuclei. They were surrounded by a dense, desmoplastic, fibrous tissue bed. Regional lymph nodes contained no tumor. The diagnosis was adenocarcinoma of the pancreas with squamous metaplasia.

The patient withstood the operative procedure well and had a completely uneventful and uncomplicated postoperative course. He was dismissed from the hospital on the 14th postoperative day.

He has had follow-up examinations every two to three months since the operation and is living and well. His most recent evaluation was in May, 1967, six years and five months after surgery.

Comment: The untreated patient with carcinoma obstructing the distal end of the common bile duct, regardless of origin, usually dies within six to nine months from the onset of clinical jaundice. Despite this, surgeons have become discouraged with the results that follow radical pancreatoduodenal resection for malignant disease involving the head of the pancreas, the distal common duct, the duodenum, or the ampulla of Vater.

The in-hospital mortality, averaging approximately 15 percent; the occasional convalescence prolonged by multiple major complications, and the relatively low percentage of long-term cures have produced general pessimism regarding the disease. It should be remembered that in carcinoma of the lung and stomach, the resectability rate is about 50 percent, the operative mortality 10 percent, and the five-year survival rate only 12 percent. These figures are comparable to those obtainable for carcinoma of the pancreas, yet surgeons have not advocated abandonment of pneumonectomy or gastric resection.

Although the case reported herein is only the 36th case of five- to six-year survival for carcinoma of the head of the pancreas, analysis of experience reported to date indicates that a new attitude should be adopted regarding carcinoma producing obstructive jaundice. Present operative techniques and postoperative care can reduce mortality to approximately 10 percent. Carcinoma of the ampulla of Vater, which has a cure rate of 40 percent, or chronic pancreatitis, or both, may produce a hard mass in the head of the pancreas which causes obstructive jaundice. Even at operation, it is exceedingly difficult to differentiate these conditions from carcinoma of the head of the pancreas, and when a carcinoma of the ampulla grows into the head of the pancreas, gross differentiation is impossible. In some cases, it is impossible to determine the exact origin even by microscopic examination of frozen section.

Direct biopsy of the pancreas, either by knife or by punch needle technique, may be complicated by hemorrhage and fistula formation. Moreover, results of biopsy of the pancreas by any technique are not accurate because of inability to obtain a precise specimen from the area desired. Most carcinomas are surrounded by a thick capsule of tissue which shows chronic inflammatory change, so that even needle biopsy may be misleading.

Biopsy of the head of the pancreas may be performed transduodenally with relative safety in cases where a lesion is producing obstructive jaundice and obstructing the distal end of the bile duct as it enters the duodenum and the ampulla of Vater. Thus, by opening the second portion of the duodenum on its lateral aspect to expose the ampullary area, access is obtained to the obstructing mechanism, regardless of its origin. Tissue specimens may be taken from the head of the pancreas, the ampulla of Vater, the

distal end of the common bile duct, or the duodenum by this means without risk of pancreatic fistula, and with much less risk of hemorrhage. There is, of course, the slight risk of leakage from the duodenal suture line. By this method, one is enabled to identify the origin of the carcinoma more precisely. We should not deny a patient a resection and a 40 percent chance for five-year survival for carcinoma of the ampulla because of the mistaken impression that his carcinoma originates in the head of the pancreas where the outlook is less favorable.

Sometimes even a good biopsy specimen, though proving carcinoma, fails to yield a conclusive microscopic identification of origin. If other factors are favorable, a pancreatoduodenal resection should be performed.

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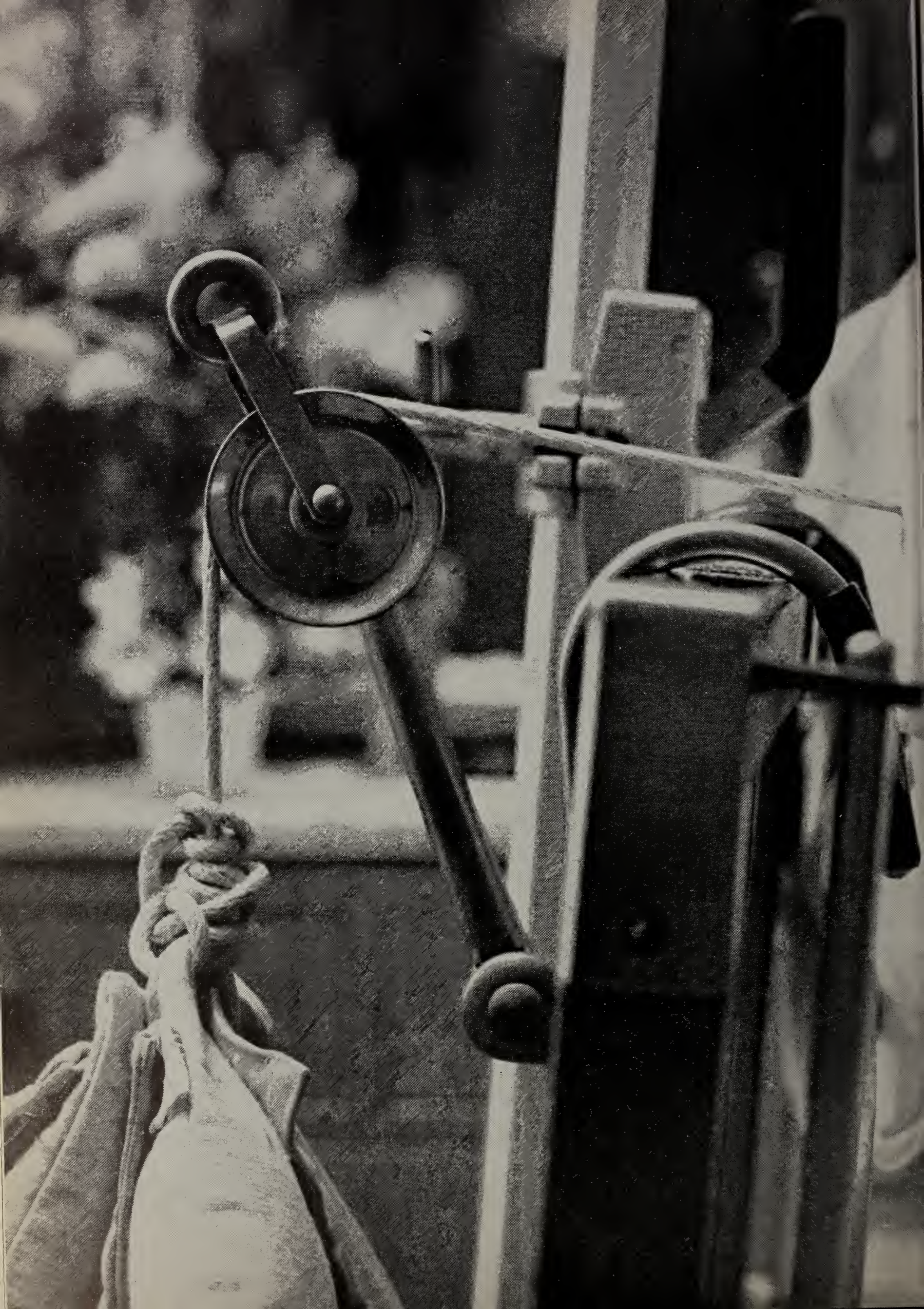

THE DRUG PROBLEM AMONG YOUNG PEOPLE*

Dana L. Farnsworth, M.D. •

The current publicity attending the unauthorized use of drugs by young people has convinced the general public that drug taking is a new problem. It is not. For thousands of years, alcohol, peyote, marijuana, hashish, opium and other substances which produce similar effects such as laughing gas (nitrous oxide), ether and glue solvents have been used to alter human consciousness and distort the ordinary sense of, and responses to, reality. What **is** new, however, is the high incidence of young people participating in "the drug scene" and the extent of acceptance or encouragement of it by influential members of the literary and academic worlds.

Of all the hallucinogenic agents, LSD (lysergic acid diethylamide) and marijuana (cannabis) are at present the most widely used. Less extensive use is made of mescaline, bufotenine, psilocybin and demethyltryptamine.

The pharmacological qualities of LSD are discussed in a recent article by the Committee on Alcohol and Drug Dependence of the AMA Council on Mental Health.[1] As yet, research has not established LSD as an effective treatment for any disorder. Such research, however, is gravely handicapped by emotional reactions toward the drug engendered by its irresponsible and illicit use.

The chief objection to the use of LSD arises from the growing body of evidence that it produces irreversible changes in the life style and personality of those who use it. Physiological changes are suggested in Cohen's work on chromosomal disruption.[2]

Psychological changes usually include impairment of the subject's ability to make realistic judgments. An individual who is under the influence of LSD can ignore facts previously held to be valid and construct new beliefs, no matter how irrational. Such forms of thinking bear much similarity to psychosis. A person may feel that he has powers which he did not previously have, or that certain laws of the environment (such as vulnerability) are not operative in his case. For example, feeling omnipotent, he believes that he can jump out of a window without being hurt. Wishful thinking becomes prominent. Preoccupation with isolated aspects of sensory experiences may replace all other sensations. Most characteristic of all is the abandoning of long-term patterns of striving, which Freedman and Powelson[3] describe as follows:

> "LSD enthusiasts talk of religious conversions, the awakening of artistic creativity, the reconciliation of opposites. The main change to be observed in such individuals, however, is that they have stopped doing anything. The aspiring painter talks of the heightening of his aesthetic sensibilities and skills, but he has stopped painting. The graduate student who withdrew from writing his dissertation in philosophy talks of the wondrous philosophical theories he has evolved. But nothing is written. It seems that the world of fantasy has become far more compelling than external things. Indeed, fantasy is substituted for reality."

One enthusiastic user of LSD and marijuana says, "It has been .....'s experience, and many

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others, including my own, that the mind-drugs, the hallucinogens, do very interesting and wonderful things and greatly open the mind to the creative processes." To an observer he appears to have abandoned the usual efforts to be clean, neat and presentable; he has failed in college, has no job (and doesn't want one), yet insists that he has achieved happiness. Like many other users of the hallucinogenic drugs, he insists that physicians who take care of those who become disturbed or psychotic know nothing about the drugs, refuse to see their good qualities, and are in no position to judge them because they have not taken them themselves. Clinical reports of persons involved in acute and chronic psychoses, suicide, or even murder are discounted by the more ardent advocates of drug usage as being so few in number as to be insignificant.

In the past, most users of illegal drugs had deprived socio-economic backgrounds and poor social and educational records, a tendency to criminal behavior, and preferred narcotics to other drugs. In general, the new users come from the middle class, have had good educational experiences, and often are involved in intellectual or creative pursuits. When drug use changes their attitude and capacity for judgment, the differences are much more noticeable than they are in the more deprived groups.

The evidence of harmful effects of marijuana is less clear than that of LSD. In fact, many people insist that its use has no disadvantages other than being illegal, and some groups are campaigning vigorously for legalization of marijuana. A comprehensive presentation of the proponents' arguments appears in Ginsberg's[4] **Atlantic Monthly** article "The Great Marijuana Hoax."

On the other hand, there are those who maintain that marijuana's dangers go beyond the legal ones. As with the drug's advocates, its opponents' points of view constitute a spectrum, with some objecting on moral grounds, some on the basis of its psychological and physiological effects, and some who do not oppose use of marijuana **per se** but interpret it as a sign of young people's personal and societal difficulties and an unconscious call for help.

Keeler[5] has reported 11 instances of adverse reactions to marijuana. Some of them were of psychotic proportions and included panic, fear, depersonalization, gross confusion and disorientation, depression, and paranoid reactions. Four subjects became schizophrenic (with thinking disorders and inappropriate effect) after extensive use of marijuana, amphetamine and LSD. Keeler is of the opinion that marijuana can produce psychotic disorders of a serious degree and that its use can initiate destructive changes in life style. When there are differences of opinion on this latter point, the "patient" approves the change but most other persons do not.

My experience, and that of my colleagues at the Harvard University Health Services, support the contention that the use of marijuana does indeed entail risk. In fact, we find it to be harmful in many ways and to lack counterbalancing beneficial effects. Many students continue to think it is beneficial even while their grades go down and while other signs of decrease in responsible and effective behavior become apparent.

Some Characteristic Complications

A few characteristic complications of marijuana usage will serve to illustrate our concern:

A 21-year-old woman was involved in a conflict with her mother regarding choice of serious dating partners, following which she renounced her religion, drank to excess, and became promiscuous. When she became fearful of the effects of drinking she began smoking marijuana regularly. She then became depressed. To combat her depression she used more and more marijuana and, on one occasion, after smoking an unusual amount, slashed her wrists and was admitted to a hospital. Under psychotherapy she improved, stopped using drugs, and resumed effective academic work.

A 19-year-old man with high moral standards became depressed, used marijuana to combat an acute depressive episode, experienced "black despair," and then obtained sedative pills from a friend which he took in an attempt at suicide. After admission to a hospital and subsequent treatment for his depression, he improved and has resumed his studies.

A 20-year-old woman with a long history of emotional conflict became socially irresponsible, intermittently depressed and occasionally overactive and irritable. She tried marijuana to combat her symptoms but found that it was not giving her the "kick" she had sought. On the advice of friends, she began taking LSD with the hope that it would enable her to gain insight and become more aware of herself. Her potentially disastrous behavior continues and psychotherapy is refused.

A 19-year-old man with dirty clothes, unkempt hair and beard, in conflict with his parents, hopeless about society, has been taking benzedrine, dexedrine, marijuana and LSD, "to find out about himself." He views those who

encourage him to avoid drugs as part of the hostile establishment who are infringing on his rights. His use of drugs serves as a barrier against development of the kind of satisfying interpersonal relations he desires as well as an obstacle to psychotherapy.

A senior premedical student with an excellent academic record, already admitted to a medical school, suddenly began to do failing work in one course. He said his energy had been diverted into trying to stop using marijuana, which he had begun using extensively during his senior year. When faced with the necessity of studying he found it easier to "take pot." Under its influence he was convinced that studying for examinations was not as important as other things. He wanted help, stating explicitly that he considered the use of marijuana harmful because it encouraged him as well as his friends who used it to evade reality and pursue illusory goals.

Another student denied that his extensive use of marijuana adversely affected his academic performance, but said that while under its influence he lost both the desire and ability to study. At the end of the semester his grades dropped precipitously. He refused psychiatric help, saying that although he knew he had an emotional problem, drugs had nothing to do with his academic difficulties. Whether or not he is right cannot be proven at present nor is it relevant, since he is in trouble and does need some kind of help.

These cases illustrate some of the issues involved in the great marijuana debate. In no instance did marijuana cause the original conflict. On the other hand, it contributed nothing positive and probably added to the problems each person faced; indeed, it may have delayed or prevented effective approaches to the solution of their conflicts.

In one sense, it is misleading to talk about "the drug problem" as if it were an isolated phenomenon for in fact, it is only one aspect of young people's position in contemporary society. If drug taking were not related to current social conditions and individuals' reactions to them, it would be much easier to deal with. But the issues are complex; that is, drug taking **means** something.

Fashionable Aspect

Undoubtedly, fashion has something to do with drug use. In some circles, and particularly among the young, experience with drugs has become a kind of social currency, a source of status and esteem. It is possible therefore, that if drug taking were no longer condoned by most young people, the users, deprived of the gratification of peer approval, would turn to other (ideally more constructive) methods of dealing with their personal problems.

But if there were not more fundamental factors at work, drug taking would go the way of goldfish swallowing and telephone booth cramming. The fact that drug taking is illegal reveals its function as a form of rebellion and protest — and it is tempting to write it off as such — that is, as a typical "phase" of youth which should be ignored because its passing is inevitable, or treated with a get-tough policy. It would be wrongheaded, however, to do so; young people's rebellion is meaningful to them, and constitutes both a response to their situation and a way of dealing with it. Furthermore, their judgments often are more valid than older generations care to admit.

On a personal level, young people tend to suffer intense feelings of isolation and vulnerability. Present-day American society and its institutions often exacerbate these feelings. For example, the mass-produced is valued more, the man-made less than ever; both the government and colleges are becoming larger and more impersonal, and the individual's sense of being insignificant and helpless is increasing.

The process of attaining skill in the trades and professions seems to them at least uncomfortably long and sometimes irrelevant to their future activities. For many members of minority groups it is impossible. School is the only place most young people can be sent for training. When school programs are imaginative, relevant to past experiences and future expectations, and led by teachers whom the students can like and respect, students participate with enthusiasm. When curricula are dull, teachers uninspired, listless, underpaid and overworked, physical facilities inadequate, and support from parents and the community lacking, the students can hardly be expected to be enthusiastic about their education.

Moreover, young people are keenly aware of social injustice, the threat of nuclear war, and the ineffectiveness or downright hypocrisy of many of those in authority. They are confused about authority, not clearly appreciating that responsible authority permits a democracy to exist whereas irresponsible authority, or authoritarianism, is destructive of the democratic process. As a result of their confusion they often tend to reject all authority. Sometimes their criticisms of society become so generalized that they reject most conventional values, refuse to

participate in a system they see as pernicious, and focus instead, with drugs as their instrument, on their own subjective values and experience; this is the meaning of the phrases **turn on, tune in, drop out,** (e. g., marijuana often seems to them to produce a sense of greater fellow-feeling and better communication).

Because of their psychological effects, drugs temporarily help young people to escape their feelings of being alienated, under pressure, and helpless; simultaneously, the act of drug taking places each individual in a group of kindred spirits. He may feel better related to others even as objective observation shows him to be even more isolated than before.

Many young persons have not had the advantage of a family life in which they were trained for responsibility. One group of young former drug takers who appeared on a David Susskind show agreed that if their parents had been concerned about them and had been strict in setting standards for them to follow, the possibility of their becoming dependent on drugs would have been decreased. In their discussion they formulated the principle that concern without discipline is of little value and discipline by parents who do not really care about their children is useless.

Drug use and its associated forms of behavior have certain built-in limitations. They provide little permanent satisfaction. Short-range satisfaction is derived from peer group approval and publicity. Moreover, the overzealous (and sometimes blatantly wrong) activity of some law enforcement officials serves as justification or "proof" of the rightness of their own positions. The exaggerated concern accorded them by their frustrated and bewildered critics may encourage them to persist with their self-defeating activities longer than they otherwise would prefer. Since most of them seem to have no fixed income other than what they get from their families, and are not developing a capacity for responsible employment, they may ultimately tire of their vagabond existence. There is considerable evidence that many young people toy with various forms of asocial or antisocial behavior only to return to more responsible modes of living, often with strong dedication to the righting of social wrongs.

The methods by which alienated young people choose to show their disdain for conventional values make rational thinking about their behavior difficult for older people. Whereas the young usually put high priority on love, peace, idealism, and similar attributes, their appearance and behavior often seem to be peculiarly designed to attract criticism. Long hair, outlandish fashions, lack of cleanliness, sexual laxity, disrespect for personal and public property, and a manner which appears arrogant and impulse-ridden frequently accompany experimentation with drugs. Irritation with specific forms of disapproved behavior tends to divert attention from the fundamental problem, i.e., the dissatisfaction of these people with the values they observe and their subsequent alienation, and direct it toward changing or forbidding the behavior considered undesirable. Attention to the reasons for alienation and disenchantment, if it is to be effective, must include respect for the individuals involved, and tolerance (but not necessarily approval) for their behavior.

The Physician's Role

In their desire to express themselves the majority find satisfaction in their studies, their school associations, and the support they get from their families and friends. Others not so fortunately situated cannot resolve their conflicts (usually they are not even aware of what the conflicts are) and express themselves in delinquent acts, or poorly controlled impulse expression, or by showing no sense of social responsibility (or any combination of these). An even more serious result of the failure to develop a way of life that yields satisfaction is the development of mental or emotional illness. A new and disturbing aspect of hallucinogenic drugs is that they may permanently impair the judgment of people who experiment with them. These potentially capable young men and women could thus become permanent casualties of their struggle to give meaning to their existence, and we should find methods of preventing such a disaster if possible. Physicians are in a particularly good position to help educators develop such methods and should, therefore, acquaint themselves with the issues involved.

If we approach the solution of the drug problem with single-minded determination to eliminate the drugs, or prevent their use by young people, we run the risk of adding to our difficulties rather than minimizing them. Drugs should be viewed as an incidental factor, considered in the same class as other forms of "acting-out" behavior (disrespect for property, acting on impulse, accident proneness, delinquency), and not as the central problem. This does not lessen the importance of appropriate laws for the control of potentially harmful drugs and support of law enforcement agencies.

In showing such support, however, the physician should not be the punitive agent, thus depriving troubled people, who happen to use drugs as one of their attempts to deal with their conflicts, of one of their sources of effective help.

The American Medical Association, through its Committee on Alcohol and Drug Dependence and the Council on Mental Health, has prepared a series of statements on all the drugs about which medical authorities are concerned.

Those on narcotics,[6] barbiturates,[7] amphetamines,[8] marijuana,[9] and LSD[1] have been published in **JAMA.** An extensive monograph on alcoholism and a summarizing statement for the general public about the drug problem have been published separately.

Armed with the information contained in these publications, every physician can be of inestimable help to educators, law enforcement officials, clergymen, parents, leaders of young people's organizations, and others in each community who have a responsibility for keeping drug usage within reasonable and appropriate limits. Success in such an endeavor will depend to a large extent on gaining the understanding and support of the vast majority of young people who are interested in approaching the solution of problems facing them in sound and intelligent ways. Giving them the facts in terms that can be clearly understood, without moralizing, in combination with efficient enforcement of the laws covering distribution of these drugs, appears to be our most important weapon.

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GLOMERULAR BASEMENT MEMBRANE CHANGES IN EXPERIMENTALLY INDUCED LATHYRISM IN RATS*

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Edwin H. Shaw, Jr., Ph.D.
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Experimental lathyrism was produced in rats by administration of semicarbazide and the change in glomerular basement membrane was studied by light and electron microscopy. Focal thickening and fraying of the glomerular basement membrane was present. This finding is consistent with the view that the glomerular basement membrane has certain characteristics of collagen since the lathyritic disease process is known to affect collagen.

INTRODUCTION

Experimental lathyrism induced by semicarbazide has been reported as producing changes in connective tissue in bone and aorta.[1] No report has as yet been made on change in the ultrastructure of renal glomerular basement membrane. This disease process is known to affect collagen. Since chemical and immunological studies[3, 5, 6] indicate the existence of a certain similarity between the glomerular basement membrane and collagen, this study was undertaken to determine if the glomerular basement membrane is also affected by the experimentally induced lathyritic disease process.

Method

Three albino weanling male rats were fed, **ad libitum,** a standard diet containing 0.4% semicarbazide hydrochloride to produce lathyritic change.[2, 7] As a control, three rats were fed with the same diet without semicarbazide. At the end of three weeks all the lathyritic and control rats were killed by decapitation. Part of the kidney tissue was fixed in veronal-buffered osmium tetroxide for one hour, dehydrated and embedded in a half and half mixture of Epon and Araldite. Thin and approximately one micron thick sections were cut from these embedded tissue blocks by the Porter-Blum microtome. The thin setions were stained with uranyl acetate and lead citrate[9] and were examined under the RCA-3G electron microscope. The one micron sections were stained with 0.1% toluidine blue solution in 2.5% sodium carbonate[10] and were examined under the light microscope.

The remaining renal tissue was fixed in 10% neutral formalin and was embedded in paraffin. Sections were cut at the thickness of 7 micra from these paraffin embedded tissues and were stained with hematoxylin and eosin and periodic acid Schiff for light microscopy.

Result

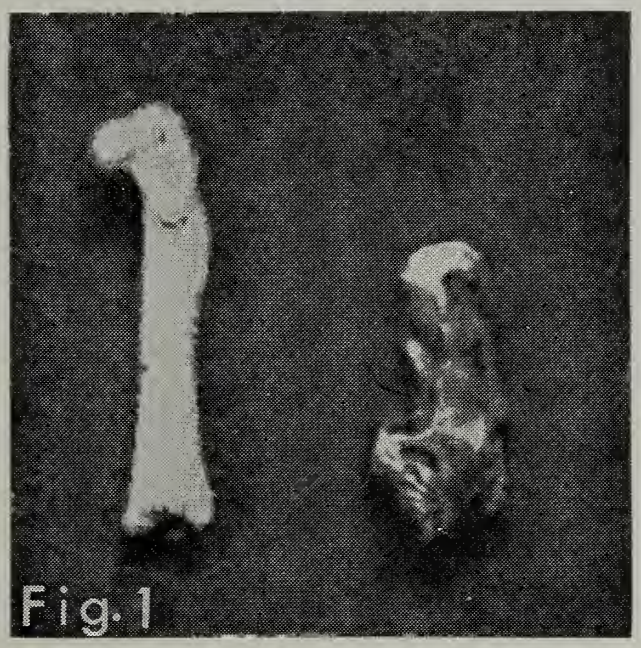
The rats fed with the diet containing semicarbazide gained weight slowly at an average rate of 5 gm. per week as compared to 35 gm. per week by the controls. The former developed

* This work was supported by Public Health Service Grant 1 SO1 FR-5421-06.

the obvious and previously reported[4, 8] characteristic skeletal deformities of experimentally induced lathyrism.

At the time of their sacrifice, the skeletal change was quite pronounced as was well represented by the gross alteration of femur shown in Fig. 1. The kidneys of lathyritic rats were much smaller than the control group, both in size and weight, but otherwise showed the usual gross appearance of kidney.

Figure 1.



The normal control rat femoral bone (left) and the femur of rat fed with the diet containing 0.4% Semicarbazide (right) are shown. The latter is short in length but is markedly increased in diameter with hardly discernible normal gross anatomical configuration.

In the light microscopic examination of the lathyritic rat kidneys, the glomeruli were obviously smaller than those of the controls (Figs. 2-A, 2-B). These glomeruli of lathyritic rats showed a focal thickening of glomerular basement membrane which was seen in the sections that were stained with periodic acid Schiff. The degree of thickening was slight and it was not easily acceptable as a true thickening in these ordinary light microscopic sections that were prepared from the paraffin embedded tissue, but it was obvious when the toluidine blue stained sections of Epon-Araldite embedded tissue were examined. In these toluidine blue stained sections, a focal basement membrane thickening was observable in the majority of glomeruli (Fig. 2-C). However, none of these glomeruli that were examined had an extensive involvement. Otherwise the glomeruli appeared normal.

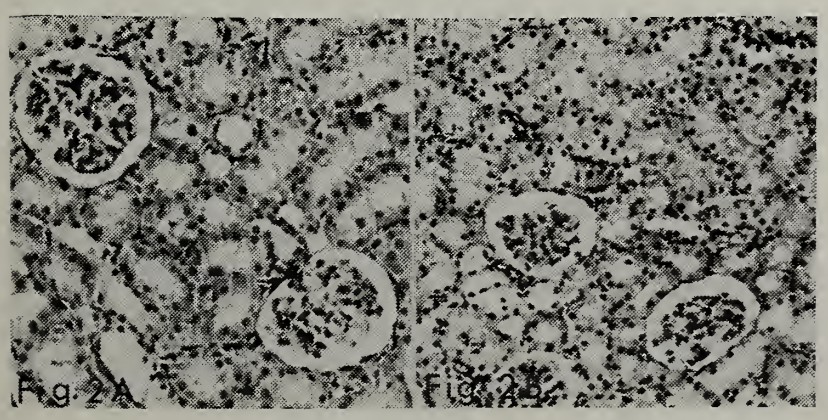
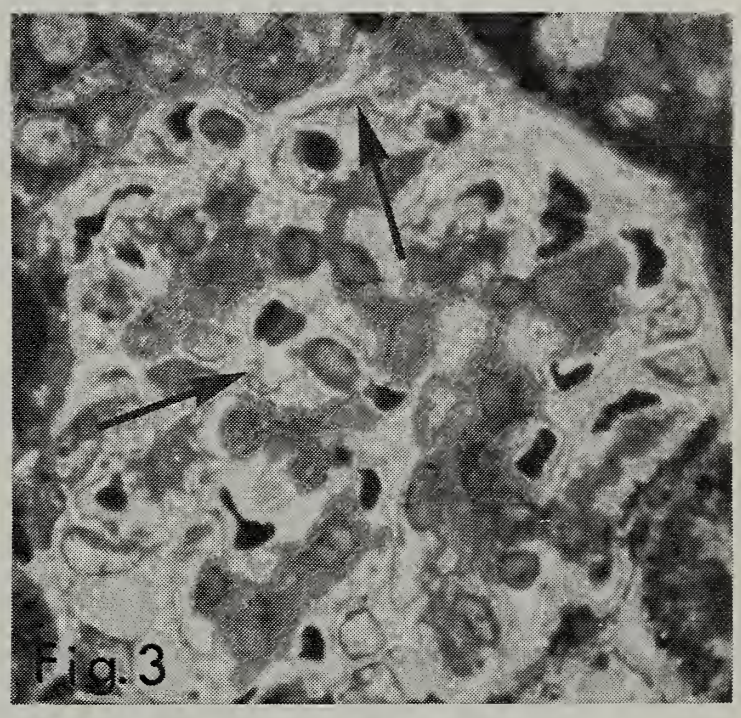


Figure 2A.
The normal glomeruli and renal tubules of control rat. X 190.

Figure 2B.
The lathyritic rat kidney showing smaller size of glomeruli and renal tubules. X 190.

Figure 3.

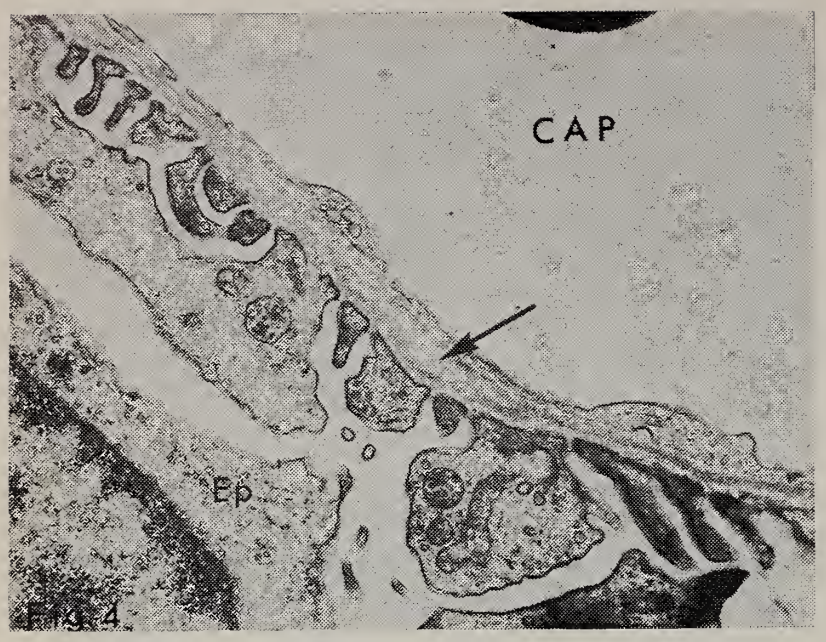


Epon-Araldite embedded tissue sectioned at one micron. Focally thickened Basement Membrane (arrow) is shown. (Toluidine blue stain). Mag. X 840.

Electron microscopy of lathyritic rat kidneys showed the glomerular basement membrane to be focally frayed (Fig. 4).The greater portion of the basement membrane of every glomerulus that was examined by electron microscopy was well preserved, but such a focally frayed area was usually present at some site of these glomeruli provided that they were not sectioned at their peripheral portion. The frayed parts were often nodularly thickened (Fig. 5). Within these altered parts of the glomerular basement membrane were irregularly arranged electron-lucent areas, which often gave the appearance of reduplicated glomerular basement membrane (Fig. 4). In the control kidneys, such a distinct nodular thickening was not observed. Quite occasionally, a slight and focal nodular appearance of glomerular basement membrane was present, but the degree of thickened appearance was much slighter and the areas were not associated with electron-lucent areas as was observed in lathyritic kidney.

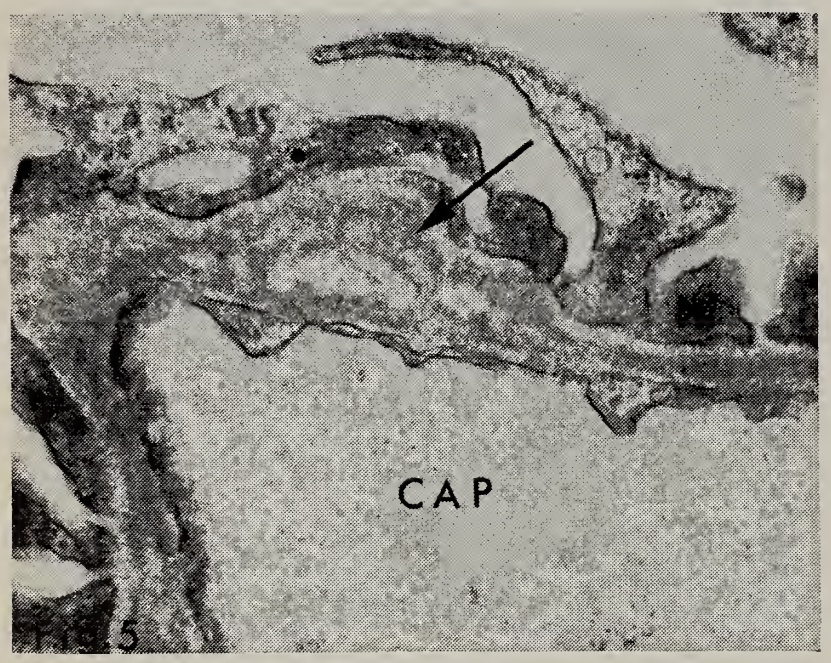
A focal dilatation of some of the rough surfaced endoplasmic reticulum of the glomerular

Figure 4.



The glomerular basement membrane is frayed with area of prominent electron-lucency (arrow) giving an appearance of reduplication of the membrane. Ep: epithelial cells. CAP: capillary lumen. X 17900.

Figure 5.



The glomerular basement membrane is focally thickened, nodular, and frayed (arrow) with irregularly arranged electron-lucent areas. CAP: capillary lumen. X 30000.

epithelial cells of lathyritic rats was present, but most of the rough and practically all of the smooth surfaced endoplasmic reticulum remained unchanged. We could not see any definite alteration in the mesangial and the glomerular endothelial cells of the lathyritic rats.

Discussion

The immunologic study reported by Goodman et al. indicated that canine glomerular basement membrane and collagen have certain common antigenic groupings.[3] This observation was further supported by Markowitz's report in which the agglutination or precipitation of purified glomerular basement membrane by antisera to canine tendon was described.[6] The existence of similarity between the glomerular basement membrane and collagen was also supported by biochemical study. Kefalides and Winzler[5] reported the amino acid composition of isolated glomerular basement membrane of the dog. The result was compared with the amino acid composition of isolated mammalian collagen. These authors found the resemblance in several respects of amino acid composition between mammalian collagen and canine glomerular basement membrane. The focal involvement of glomerular basement membrane observed in our present study supports the view that glomerular basement membrane is similar to collagen since lathyrism primarily affects collagen.

The electron-lucent area observed within the altered part of the glomerular basement membrane may be due to the breaching of part of the basement membrane caused by a biochemical alteration of its composition.

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The forty-seventh annual convention of the National Easter Seal Society for Crippled Children and Adults will be held in Boston, November 13-16, 1968. Sessions will be held in the Sheraton-Boston Hotel, Boston, Massachusetts. Leon Chatelain, Jr., Washington, D. C., president of the National Society, will preside. Thomas Teas, Mason City, Iowa, is convention chairman.

Scientific PAPER

THIRTEEN YEAR SURVIVAL IN RETICULUM CELL SARCOMA OF THE SCAPULA

Robert E. Van Demark, M.D., F.A.C.S.
Sioux Falls, South Dakota
and
Chas. B. Mitchell, M.D., F.A.C.P.
Fort Worth, Texas

In contrast to most sarcomas of bone, reticulum cell sarcomas present a relatively good prognosis.[3] Dahlin[1] reports that slightly more than one-third of the primary-type cases seen at the Mayo Clinic survived five years, but that many of the survivals succumbed later.

The following case represents a survival of more than thirteen years after treatment with forequarter amputation and irradiation.[4] The patient remains in good health.

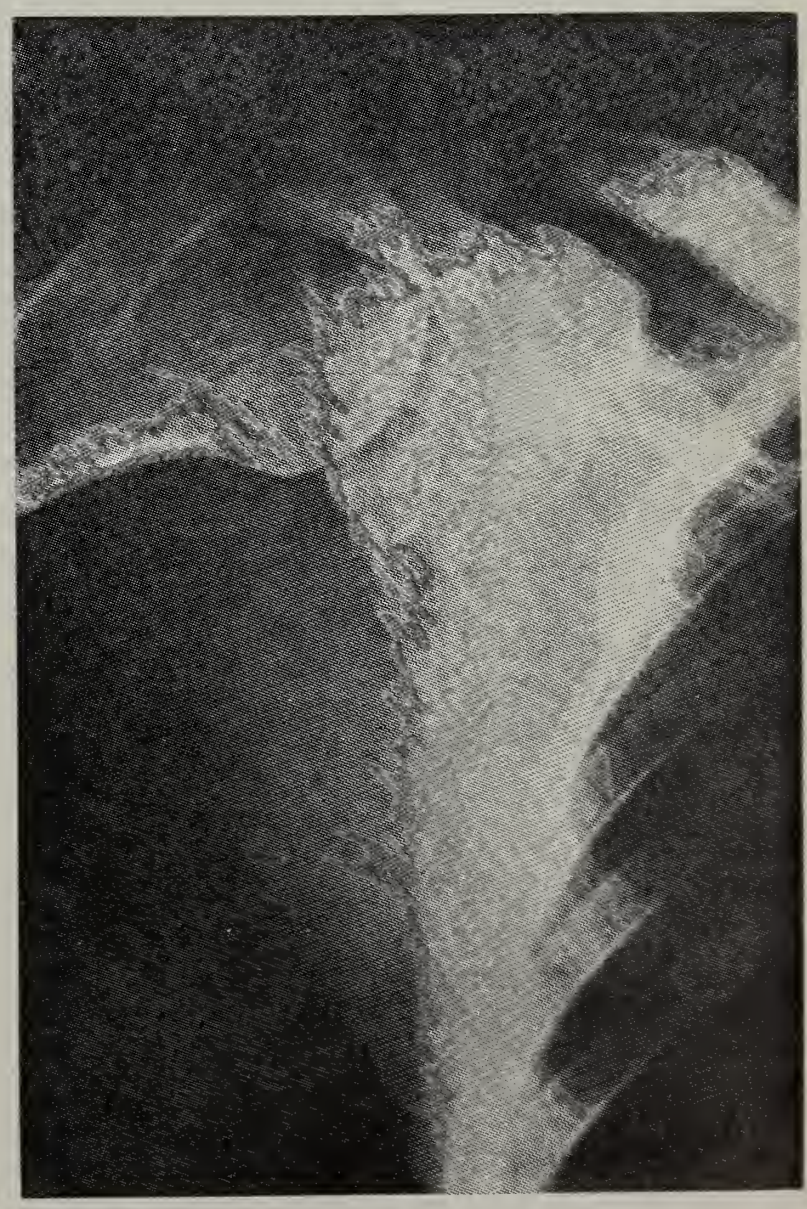
CASE REPORT

A white male, age 49, farmer by occupation, was referred to us on January 5, 1955, because of pain and tumor in the right axillary region. The patient had a palpable mass involving the soft tissues along the lateral margin of the scapula. X-rays showed a destructive lesion of the lateral margin of the scapula with osteolytic areas along the inferior glenoid and lateral border of the scapula. (Fig. 1). Patient's sedimentation rate was elevated to 66 mm. per hour.

Roentgenographic examination of the chest showed no evidence of metastases. Patient was admitted to the hospital where a biopsy was performed. A frozen section showed a malignancy and a fore-quarter amputation was performed.

The pathological report was as follows: "Gross: The specimen consists of a right hand, lower arm and upper arm as well as scapula and the attached subcutaneous, muscular and integumentary tissues. The specimen is mod-

Figure 1.



Roentgenogram of the right scapula showing extensive destruction of the lateral margin of the scapula and the overlying soft tissue mass.

erately blood stained in the lines of excision, but otherwise is not remarkable, except for an old healed 3½ cm. scar in the lateral aspect just above the insertion of deltoid. On section through the area of the scapula, a large mass of tissue measuring 23 x 20 x 18 cm. is found yellowish-tan in color, firm in consistency and somewhat rubbery. This mass of tissue is in direct continuity with and definitely involves the bony portion of the scapula in large areas and particularly along the lateral margins. There is an extension into the region of the axillary tissue by this malignant appearing tissue. However, good lines of resection are present between the edges of the tumor mass and the lines of resection. Thus, tumor appears to be completely excised grossly. No evidence of bony formation is found in the tumor itself. There is definite invasion of surrounding tissue including muscle and connective tissue to a rather marked degree.

Microscopic: Sections reveal masses of very dark pyknotic, deeply basophilic staining nucleoli showing poorly defined cytoplasmic margins in many areas with multiple foci of early necrosis and degeneration disseminated throughout the specimen. It is embedded on a matrix of dense fibrous stroma. These cells appear to form slit-like spaces and line them; however, this may be artifact due to shrinkage of fixation and pulling away of the various cell strands into two or three divisions with the connective tissue shrinking not as much as the softer and more cellular neoplastic tissue. Multiple sections fail to reveal any definite osteogenesis except in the vicinity of the periosteum and this could very well be reaction on the part of the periosteum in that tumor cells do not appear to be present in the immediate vicinity of the newly forming bone and since it is confined solely to the periosteum it is my opinion and interpretation that this represents periosteum laying down new bone rather than being new bone formation by neoplastic cells.

The sections through the scapula reveal infiltration of marrow spaces by the atypical elements. These malignant cells both external to bone and inside of bone show, at times, areas of marked pleomorphism with the cells varying greatly in size, shape and configuration, many times being spindle in character. For this reason lesion is not a lymphosarcoma and it does not conform to Lichtenstein's criteria for Ewing's, although that is another distinct possibility. Undifferentiated carcinoma does not usually give this pattern. Diagnosis: Reticulum Cell Sarcoma of Right Scapula. Marked invasion of surrounding periscapular tissue. Lesions appears to be completely excised."

Figure 2.

Reticulum stain, showing the typical reticulum about the tumor cells, the characteristic finding in this sarcoma.

The patient's post-operative course was uneventful, and two and one-half months after surgery his sedimentation rate had dropped to 8 mm. per hour and his chest X-ray remained negative. He received deep X-ray therapy to the right posterior and lateral chest wall, upper and middle portions, and daily increments of 250 R to a total of 2000 R over an 8 day period.

In 1956 the patient suffered with an attack of pneumonitis with his sedimentation rate rising to 29 mm. per hour (Westergren) and his X-rays being reported as follows: "Chest: There has been no change from the last examination. There are no visible metastases." His sedimentation rate subsequently fell to normal level with disappearance of clinical symptoms and findings. His last X-ray was reported as follows: "Both lungs are clear."

The patient has worked on his farm continuously since his surgery and manages it without hired help. He does not wish to have a prosthesis, which he feels will be in his way.

COMMENTS

This case demonstrates the favorable results sometimes seen in reticulum sarcoma involving bone and invading the adjacent soft tissues. Currently it appears that amputation or wide local resection in conjunction with radiation therapy is the most reliable form of treatment in this particular type of case.

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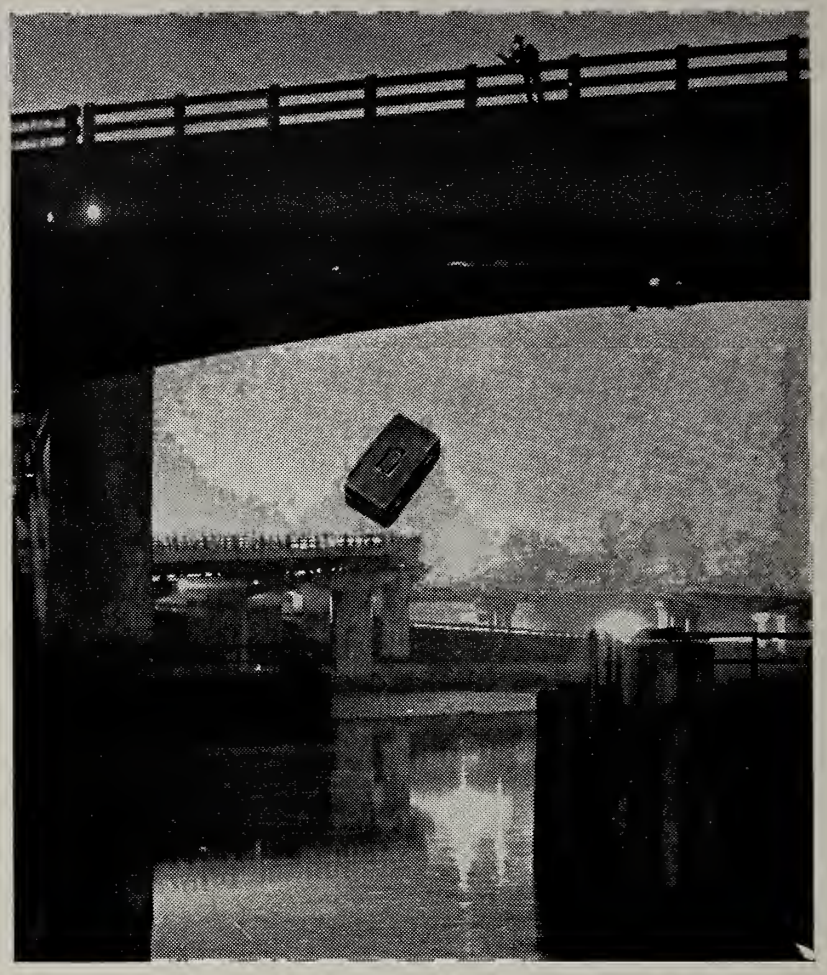

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Scientific PAPER

SOUTH DAKOTA PRENATAL CARE STUDY
VI. BABIES: HEALTH OF BABY

Brooks Ranney, M.D.*

Introduction:

Question No. 12 on the Study form was:

12. "What is the condition of your baby," and the choices were:

Condition Classification	Health
1. alive, healthy and growing	healthy
2. alive, but not well	neonatal morbidity — morbidity
3. alive at birth, but died	neonatal death — mortality
4. died during labor or delivery	intrapartum fetal death — mortality
5. died before labor started	antepartum fetal death — mortality

Of the 10,606 mothers who answered questions on the Study forms, about 88% answered this question. Comparisons with other questions in the Study show a number of interesting correlations.

Correlations:

1. Parity:

Table No. 1 shows that the third pregnancy is the safest for the baby, by a small margin. More babies were "not well," or had died neonatally, following first deliveries, and following fifth or subsequent deliveries. There is no clear pattern relating to intrapartum fetal deaths. However, the highest percentage of antepartum fetal deaths occurred during sixth and subsequent pregnancies. (Percentages for mothers not answering the question have not been included here, in order to simplify the tables.)

Table No. 1

Effect of Parity on Condition of Baby (Recorded in %)

Number of this pregnancy	Condition of Baby: Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
1	85.61	**.85**	**.81**	.20	.37
2	84.53	.77	.73	.08	.25
3	**85.99**	.51	.45	.68	.86
4	85.51	.70	.54	.15	.54
5	82.73	**1.96**	**.92**	.34	.57
6 or more	83.57	**.91**	**.63**	.42	**1.19**

2. Prenatal Care:

According to the data in table No. 2, the 10,310 mothers who indicated they had **prenatal care** bore babies with **fetal death rates 0.27% lower,** and **neonatal death rates 0.97% lower** than the rates of babies born to the 246 mothers who had no prenatal care.

The **perinatal mortality rate** for babies born to mothers who **had prenatal care** was **one-half** that of babies born to mothers who did not have prenatal care.

Even when one adds in the babies classified as "not well" the perinatal mortality and morbidity rate was significantly better when the mothers had prenatal care.

* Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine; The Yankton Clinic, Yankton, South Dakota. (Note: This is part of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetric Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic; and which benefited from the invaluable assistance of Dr. Neil Palmer, formerly from the Computer Center at the University of South Dakota, now Chairman of the Department of Sociology at the University of Toledo.)

Table No. 2
Effect of Prenatal Care on Condition of Baby
(recorded in %)

	Condition of Baby					
	Healthy	"Not well"	Neonatal death	Died during labor	Died before labor	Perinatal Mortality
Had prenatal care	**84.95**	.88	.65	.29	.55	1.49
No prenatal care	79.67	.40	**1.62**	0	**1.21**	**2.83**

Likewise, the perinatal mortality rates were proportional to the earliness with which mothers sought prenatal care —the earlier the first prenatal visit, the lower the perinatal mortality rate. (Table No. 3)

Table No. 3
Time of First Prenatal Visit and Perinatal Mortality
(recorded in %)

	Perinatal mortality rate
Prenatal care FIRST sought by mother	
During **first** trimester of pregnancy	1.39
During **second** trimester of pregnancy	1.84
During **third** trimester of pregnancy	2.10

Still another way to evaluate this relationship is to compare the **number** of **prenatal visits** a mother sought during her pregnancy to the fetal and neonatal results. Table No. 4 shows a direct relationship; mothers seeking more prenatal care visits had more healthy babies. Mothers seeking few or no prenatal care visits bore progeny with a higher perinatal morbidity and mortality.

It is interesting that the lowest perinatal mortality rate (Table No. 4) occurred among babies born to the 2,895 mothers who sought the routine number of 11 to 15 prenatal care visits (i.e., each month for 7 months; twice during the eighth month; each week the last month.) By such regular checking, minor variations from the normal physiology of pregnancy can be observed and treated early, before major pathology develops.

Likewise interesting is the fact that the perinatal mortality rate rose somewhat among progeny of those 413 mothers who sought more than 16 prenatal visits. These women probably had more prenatal visits because their obstetricians were trying to treat persistent complications; so it is not surprising that the perinatal mortality rate rose. It would probably have risen higher without that extra prenatal care.

3. Weight Gain:

The effect of maternal weight gain during pregnancy on perinatal mortality is not apparent so long as the amount gained is in the middle ranges. The highest perinatal mortality rate (7.22%) occurred among babies whose mothers gained nothing or lost. The next highest rate (3.12%) occurred among progeny of mothers who gained less than 15 pounds during their pregnancies. At the opposite end of the scale, mothers who gained more than 35 pounds had babies with the third highest (2.68%) perinatal mortality rate.

4. Complications of Pregnancy:

Each mother was asked, "Did you have any special problems or complications during this pregnancy?" Those who answered "yes" bore babies with a much higher perinatal morbidity and mortality rate than those who answered "no." (Table No. 5)

Table No. 4
Number of Prenatal Visits and Condition of Baby
(recorded in %)

	Condition of Baby					
Number of prenatal visits during pregnancy	Healthy	"Not well"	Neonatal death	Died during labor	Died before labor	Perinatal mortality
None	80.36	**.68**	**2.05**	0	**.68**	2.73
0 to 5	85.49	**1.14**	**1.94**	**.68**	**.74**	3.36
6 to 10	**86.73**	**.97**	.48	.32	.57	1.37
11 to 15	**86.19**	.55	.17	.03	.51	**.71**
16 or more	85.14	.24	.72	.24	.48	1.44

Table No. 5
Effect of Complications on Condition of Baby
(recorded in %)

Maternal complications during pregnancy	Condition of Baby				
	Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
Yes	83.36	**1.43**	**1.47**	**.65**	**1.50**
No	**85.53**	.65	.41	.16	.26

5. Length of Labor:

Table No. 6 shows interesting relationships between length of labor and different types of perinatal morbidity and mortality.

Babies classified by their mothers as "not well" were found most commonly after the longest labors, and next most commonly after the very shortest labors.

Neonatal deaths occurred most commonly after the one-hour, two-hour, or three-hour labors. Since many premature babies are born after short labors,[1, 2] and since rapid, precipitate labors may not allow adequate oxygen transfer to the baby, through the placenta, during the short intervals of myometrial relaxation between the hard, frequent contractions, this higher incidence of neonatal deaths following such labors is not surprising.

Conversely, the rate of intrapartum fetal deaths was highest following prolonged labors. Included among causes might be unrecognized malpresentations, moderate cephalopelvic disproportions, severe degrees of uterine inertia and incoordinate labor, placental and cord complications, etc.

Table No. 6
Effect of Length of Labor on Condition of Baby
(recorded in %)

Length of labor in hours	Condition of Baby			
	"Not well"	Neonatal death	Died during labor	Died before labor
0-1	**1.07**	**1.49**	.21	**1.07**
1-2	.79	**1.06**	.13	.53
2-3	.85	**1.06**	.42	.31
3-4	1.04	.66	.16	.66
5-6	.52	.52	.13	.13
7-8	.87	.96	.26	.69
9-11	.61	.30	.10	.61
12-16	1.00	.18	.45	.27
17 or more	**1.36**	.68	**.90**	.45

Finally, pregnancies during which the baby died in utero ended most commonly with short labors.

6. Type of Delivery:

Breech delivery and section are associated with much higher perinatal mortality rates than "normal" or forceps deliveries, probably because the indications for operative deliveries often include complications of pregnancy, labor, or delivery. Apparently forceps deliveries (when performed with good obstetric judgment and skillful precision) do not jeopardize the baby. (Table No. 7)

7. Birth Weight of Baby:

Highest perinatal mortality rates occur among "previable" babies. Next highest, among premature babies. The healthiest babies weigh between 5½ and 10 pounds at birth. The neonatal death rate rises again in newborn babies weighing more than 10 pounds. (Table No. 8)

It is worth reemphasizing that the "previable" baby, weighing 2½ pounds or less, has a survival rate little more than 5% or 6% under present methods of management. These, and slightly larger premature babies, require very meticulous management by specially trained persons in order to retain their slim hold on life.

8. Length of Gestation:

The data in Table No. 9 reinforce prior evidence concerning the **dangers of prematurity.**

In addition, one fetal death, in utero, occurred four weeks postmaturely and two occurred five or more weeks postmaturely. Likewise, there was one fetal death during labor, five or more weeks postmaturely. Simple calculations reveal **one fetal death** associated with **postmaturity** for every **2651 pregnancies** in this

Table No. 7
Effect of Type of Delivery on Condition of Baby

Type of delivery	Number of patients in each group	Condition of Baby (recorded in %)				
		Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
"Normal"	7592	85.31	.68	.67	.21	.55
Forceps	1954	87.76	.87	.25	.15	.15
Breech	271	73.06	**2.21**	**3.69**	**1.47**	**2.58**
Section	332	79.21	**2.40**	**1.80**	**.90**	**1.50**

Table No. 8
Effect of Babies' Birth Weight on Condition of Baby
(recorded in %)

Birth weights	Condition of Baby: Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
"Previable" 0-2 lbs. 8 ozs.	6.89	**1.72**	**34.48**	**8.62**	**20.68**
Premature 2 lbs. 8 ozs.—5 lbs. 8 ozs.	71.88	**4.92**	**6.15**	**1.23**	**2.98**
"Small" 5 lbs. 8 ozs.—7 lbs. 8 ozs.	**86.17**	.67	.16	.14	.22
"Large" 7 lbs. 8 ozs.—10 lbs.	**86.44**	.54	.10	.16	.16
"Gross" more than 10 lbs.	**89.14**	0	**1.14**	0	.57

study. (Five other "postmature" babies were considered to be "not well" by their mothers. Adding these together produces a general incidence of potentially significant "postmaturity" of 1 to 1000 pregnancies.)

9. Age of Mother:

Neonatal death rates and fetal death during labor are significantly higher in babies born to girls under twenty, and women over thirty-five years of age. Also, the fetal death rate in utero, prior to labor, more than doubles itself in babies born to women older than age thirty-five.

10. Race of Mother:

Since only 22 Negro mothers were delivered during this study their number is not sufficient to cross tabulate. However, 739 American Indians and 8450 Caucasian mothers were cross tabulated with the condition of the baby.

A significantly higher percentage of white mothers had babies which died in utero, before labor. A significantly higher percentage of Indian mothers considered their newborn babies to be "not well." (Table No. 10.) (The lower percentage of "healthy" babies born to Indian mothers might be significant, but probably is primarily due to the fact that fewer Indian mothers answered **all** questions on the Prenatal Care Study forms.)

11. Miscellaneous:

No significant trends could be noted concerning the **condition of the baby** when compared with:

a) Mother's years of schooling
b) Husband's occupation
c) Mother's place of residence
d) Distance the mother lived away from her doctor.

Summary (concerning babies):

1. Among the 10,606 babies delivered during this study, 0.30% weighed 2 pounds or less; another 9.27% weighed 6 pounds or less. 1.91% weighed 10 pounds or more.[3]

2. 8.35% of the babies were delivered more than two weeks before the expected term date. 5.23% were delivered more than two weeks after the expected term date.[3]

3. 1.02% neonatal deaths, and 1.15% fetal deaths, added together, produce a total perinatal mortality in South Dakota (1965-1966) of 2.17%. (The rate for the United States in 1965 was 2.34%.) However, second twins had a perinatal mortality rate of 13.88% (South Dakota).[3]

Table No. 9
Effect of Length of Gestation on Condition of Baby
(recorded in %)

Length of gestation Time of delivery	Condition of Baby: Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
8-9 weeks early	37.38	**6.54**	**34.57**	**5.60**	**12.14**
5-7 weeks early	78.21	**7.26**	**5.02**	**1.11**	**3.91**
3-4 weeks early	94.30	**2.43**	**1.01**	0	**1.82**
"on time" (2 weeks before, to 2 weeks after)	97.93	.69	.16	.25	.25
3 weeks late	96.61	**1.12**	.56	.56	.28
4 weeks late	96.93	**1.02**	0	0	**1.02**
5 or more weeks late	91.66	0	0	**2.77**	**5.55**

Table No. 10
Race of Mother and Condition of Baby
(recorded in %)

Race of mother	Condition of Baby				
	Healthy	"Not well"	Neonatal death	Died during labor	Died before labor
American Indian	61.56	1.08	.67	.27	.27
Caucasian	65.42	.61	.69	.20	.60

4. Parity. First and second pregnancies produced more tiny babies, delivered early. Very large babies (often delivered late) more commonly resulted from fifth, sixth (or more) pregnancies.[1, 2] A mother's third pregnancy, labor, and delivery were statistically safest for her baby.[4] Perinatal mortality rates were higher with first deliveries, and with fifth and subsequent deliveries.[4]

5. Prior Abortion. Mothers with a history of prior abortion had a higher percentage of previable and premature babies this time.[1, 2] This percentage increased proportionally with the number of prior abortions.[1]

6. Prenatal Care. There were much lower previable and premature rates among babies born to mothers who **had prenatal care** during the pregnancy.[1, 2, 4] Likewise, the perinatal mortality rates of the babies were proportional to the earliness with which their mothers first sought prenatal care — the earlier the first prenatal visit, the lower the perinatal mortality rate.[4]

7. Mother's Weight Gain. Contrary to prior teachings, there **was** a direct relationship between maternal weight gain during pregnancy and babies' birth weights; mothers gaining more during pregnancy were delivered of proportionally larger babies.[1] Highest perinatal mortality rates occurred among babies whose mothers gained little, or lost; the next highest rates, among babies whose mothers gained more than average amounts.[4]

8. Complications of Pregnancy. Women who reported having complications during their pregnancies had a much higher incidence of early deliveries, and a significantly higher incidence of very late deliveries.[2] Likewise, their babies had more perinatal morbidity and mortality.[4]

9. Length of Labor. Precipitate labors occurred most commonly among mothers having previable or premature babies.[1] Not only were very early labors often shorter, but very late labors tended to be longer.[2]

When babies died **before** labor, more labors were of short duration. Babies dying **during** labor were more commonly delivered after long labors. Neonatal deaths occurred most commonly after 1-hour, 2-hour, and 3-hour labors. Babies were more commonly classified by their mothers as "not well" after very short labors, or very long labors.[4]

10. Type of Delivery. A highly significant correlation showed that the earlier labor occurred (prematurely), the more likely was the baby to be born in breech presentation.[1, 2] Higher perinatal mortality rates were associated with breech and section deliveries; lower rates, with forceps and "normal" deliveries.[4]

11. Birth Weight of Baby. Perinatal mortality was highest among very small babies, next highest among very large babies, and lowest among babies weighing between 5½ and 10 pounds at birth.[4]

12. Length of Gestation. Perinatal mortality was highest with previable babies, high with premature babies, and lowest (0.66%) when babies were delivered within two weeks before or after the expected term date. "Postmaturity" (3 to 5 or more weeks late) was associated with fetal death before labor (2 babies), fetal death during labor (1 baby), and perinatal morbidity (5 babies).[4]

13. Age of Mother. Younger mothers had more very small babies. Older mothers had more very large babies. However, mothers over age 40 also showed an increased incidence of previable and premature babies.[1] The lowest prematurity rates occurred among babies born to mothers who were between the ages of 20 and 35.[2] Therefore, perinatal mortality rates were higher in babies born to mothers who were either under 20, or over 35 years of age.[4]

14. Maternal Education. There was an inverse relationship between the amount of maternal schooling and the number of premature births — more education, less premature births.

This probably reflects knowledge and practices of respective mothers concerning the importance of adequate prenatal care.[1]

15. Hospital of Delivery. Based on length of gestation, 13 smaller hospitals (25 to 400 deliveries reported per hospital) had prematurity rates ranging from 18.5% to 10%. The six larger hospitals (more than 500 deliveries reported per hospital) had prematurity rates ranging from 10% to 6.79% — average 8.84%.[2]

Note: This is the sixth in a series of reports concerning the South Dakota Prenatal Care Study of 10,606 mothers. Subsequent reports will deal with maternal complications.

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BLUE SHIELD EXPANDS USUAL AND CUSTOMARY PROGRAMS

Blue Shield's move toward usual and customary fee programs is gaining momentum, Carl R. Ackerman, M.D., chairman of the board, National Association of Blue Shield Plans, said in an interview in the January 8 issue of **Medical Economics.** Dr. Ackerman predicted that "by 1970 all the Plans will probably offer such coverage." Both the public and physicians today want a fair fee to coincide with a paid-in-full fee, Dr. Ackerman said. "That's why the usual and customary approach is so satisfying to the two parties in which Blue Shield is most interested — the patient and the doctor," he explained.

POLIO CASES INCREASE

The number of cases of poliomyelitis in the United States during 1966 increased 70 percent over the previous year, according to the USPHS National Communicable Disease Center, Atlanta. The reason for the rise — 102 cases as opposed to 61 cases — is that Americans have become complacent about the threat of polio and there has been a decline in the use of vaccine, Surgeon General William H. Stewart reported. "If all newborn infants aren't protected . . . cases can occur among those exposed to the disease," Dr. Stewart said.

CLINICOPATHOLOGICAL CONFERENCE - SIOUX VALLEY HOSPITAL

From the Intern and Resident Teaching Conferences of the Sioux Valley Hospital, Sioux Falls

John F. Barlow, M.D., F.A.C.P.*
Pathologist - Editor

Dorence L. Ensberg, M.D., F.A.C.S.**
Surgeon - Discusser

CASE PRESENTATION No. 440263

This 63-year old Caucasian male entered Sioux Valley Hospital with epigastric pain, nausea, and vomiting of one day's duration. He had been admitted 1½ years previously for cramping pain in the right calf brought on by exercise and relieved by rest. At that time physical examination revealed blood pressure of 124/78, pulse 78 and regular, and respirations 18 per minute. The heart and lungs were normal except for an occasional premature contraction. The radial and femoral pulses were palpable and equal bilaterally. The popliteal, posterior tibial and dorsalis pedis pulses were present on the left but not on the right. The temperature and color of both extremities were equal. Urinalysis: straw-colored, clear, specific gravity 1.010; pH 5.0; glucose, protein and hemoglobin negative. The sediment showed an occasional WBC and RBC/high power field. Hgb. was 14.2 gm%, red count 4.27 million/mm^3, hct. 43%, mean corpuscular hemoglobin 33 micromicrograms, mean corpuscular volume 100 cubic micra, mean corpuscular hemoglobin concentration 33%. The leukocyte count was 7,900 with 58% polymorphonuclear leukocytes, 2% bands, 2% eosinophils, 37% lymphocytes, and 1% monocytes. An arteriogram showed an obstruction of the right femoral artery. Exploration of the femoral artery showed occlusion of the popliteal artery down to the bifurcation into the posterior tibial and peroneal. It was felt impractical to perform a bypass procedure on the artery since "run off" would be inadequate. The patient was placed on Coumadin anticoagulation after discharge. Two weeks prior to his present admission a prothrombin time was 25 seconds with a control of 13 seconds.

One day prior to the present admission, the patient developed aching, diffuse abdominal pain, bloating and nausea. He vomited several times without hematemesis. He had the urge to defecate but was unable to have a bowel movement. He had easy bruising for two days but no gross hematuria or epistaxis.

In the past, he had had a benign polyp removed from the rectum four years prior to admission. He had a nonfunctioning gallbladder with normal liver function tests and a transurethral resection for benign prostatic hypertrophy four years prior to admission. Two years previously he had an episode of acute epididymitis.

Physical exam on the present admission revealed pulse of 96 and regular, blood pressure 100/60 in an acutely ill white male. The head and neck were negative. The lungs were clear to auscultation and percussion. The heart was unremarkable with no enlargement or murmurs.

There was no localized abdominal tenderness or rigidity. No organs, or masses were felt. The pulses in the lower extremities were unchanged. Neurologic examination was negative.

Admission urinalysis was brown, turbid, specific gravity 1.024; pH 5.0; protein 3+; negative glucose; moderate amount of hemoglobin; moderate amount of ketone bodies. There were 8-10 white cells and innumerable red cells per high power field. There was an occasional cast per low power field. Hgb. was 13.6 gm%, red count was 4.51 million/mm^3, hematocrit 40%, mean corpuscular hemoglobin was 30 micromicrograms, mean corpuscular volume was 89 cubic micra, mean corpuscular hemoglobin concentration was 34%. The leukocyte count was 18,100/mm^3. Erythrocyte sedimentation rate was 34mm/hr. Serology was non-reactive. Prothrombin time was over 90 seconds with a control of 12.0 seconds. This latter became normal on vitamin K. SGOT was 92 R-F units, bilirubin

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0.5 mg% direct and 1.0 gm% total, alkaline phosphatase 1.6 B-L units (normal 0.8-2.3 B-L units). Total protein was 6.8 gm%. Electrophoretic pattern showed albumin of 3.2 gm%, alpha-1 globulin 0.53 gm%, alpha-2 globulin 0.7 gm%, beta globulin 0.9 gm% and gamma globulin 1.5 gm%. The electrophoresis was considered within normal limits. The BUN was 34 mgs%, sodium 143 meq/L, potassium 4.0 meq/L and chloride 93 meq/L. A flat plate of the abdomen and an intravenous pyelogram were negative except for a bifid left collecting system. An upper gastrointestinal series and small bowel examination showed normal duodenum and stomach. The proximal small bowel showed minimal to moderate dilatation. Just distal to this dilatation was a 10.0 cm. segment of narrowed small bowel. The barium enema was normal. A follow-up of the small bowel showed marked improvement of the previous lesion.

An electrocardiogram showed rhythm disturbance and rapid atrial flutter-fibrillation with ventricular response 130-180 and ST and T wave changes probably related to rapid ventricular response. The patient received four units of blood for continued melena. An operation was performed on the eleventh hospital day.

CLINICAL DISCUSSION

Dr. Dorence L. Ensberg: This is a case of a sixty-three year old man admitted with some acute process of about one day's duration. The symptoms suggest some form of intestinal obstruction. The pertinent past history includes arteriosclerotic vascular obstructive disorders for which he was being treated with Coumarin preparations. Other points that I regard as significant are the easy bruising for two days, the urge to defecate without success, and a prothrombin time of over 90 seconds against a control of 12 seconds. I think it is also significant that there was no localized abdominal tenderness or rigidity nor other evidences of inflammatory processes within the abdomen. It also is significant that there were innumerable red cells/hpf in the urine and, of course, the x-ray changes showing a narrowed segment in the small bowel. With this information one would have to think of obstruction due to either a small bowel tumor or tumor plus anticoagulant effect or anticoagulant effect alone.

A brief review of small bowel tumors might be in order. They tend to occur later in life, usually in the fifth or sixth decade. They are present in benign and malignant varieties in approximately equal proportions. The benign variety is slightly more common than the malignant. The malignant variety include adenocarcinomas, lymphomas, and carcinoids which occur in the proportion of about 3, 2 and 1 in that order. The adenocarcinomas are found more frequently in the proximal portion of the small bowel and the lymphomas in the distal.

The carcinoids are distributed approximately as follows: 55-60% of the time in the appendix, where they most often behave in a benign fashion; 21% in the ileum, and about 5% in the jejunum. In the latter two areas they tend to be more malignant. The benign tumors are of a wide variety such as fibromas, myomas, vascular tumors, benign adenomas, etc. The symptoms of small bowel tumors are usually those of either obstruction or bleeding. The obstruction may be either acute such as that occurring with intussusception or volvulus, or of a more chronic nature. Hemorrhage is most frequent with vascular tumors such as the hemangiomas but the myomata also are often a cause of bleeding.

In this case I am inclined to believe that this patient's trouble was related to the anticoagulant therapy and was due to an intramural hematoma. Intramural hematomas have been described as occurring both with trauma without anticoagulants and also due to anticoagulant therapy alone without any history of known trauma. Traumatic intramural hematomas are most commonly seen in the duodenum. This is due to the vulnerable position of the duodenum as it crosses the prominence of the lumbar spine. Typically there is a lag period of either hours or days between the trauma and symptoms which are usually epigastric discomfort and nausea. There may be persistent vomiting, tenderness, and a mass may even be palpable depending on the severity of the lesion. Characteristically, there is also a moderate leukocytosis; the bleeding is usually not sufficient to give rise to significant anemia in the traumatic case. Elevations in bilirubin and serum amylase have been described especially with associated injury to the pancreas. Those instances of intramural hematoma on the basis of anticoagulant therapy have shown symptoms varying from only mild distress to full blown acute intestinal obstruction. It can also take the pattern of a paralytic ileus with a silent abdomen. Both patterns have been described. The hematomas may be within any portion of the bowel wall, subserosal, intramuscular, or submucosal, with the latter being the most frequent location of the blood collection.

Dr. Donald H. Breit*: There are a number of x-rays in this case. The flat film of the abdomen shows an abnormal gas shadow in the right upper quadrant. On the first upper gastrointestinal series in this region is an irregularity. This could represent a small bowel tumor. There is dilatation of the bowel in this region (see picture I). Just distal to this is a 10.0 cm. segment of irregular narrowing. This could also represent tumor but I feel that an enteritis should be strongly considered. The transit time of the small bowel was normal. A follow-up film three days later shows some dilatation of the proximal jejunum but there appears to be marked improvement in the region of previous narrowing. Hemorrhage into the bowel wall could explain the picture above. These changes have been described secondary to anticoagulant therapy.

Figure I

The narrowing indicated by the arrow shows the area of intramural hematoma.

Dr. Ensberg: I think the x-ray pattern is extremely important in arriving at this diagnosis. The changes have been described by several people but in general include, as already emphasized by Dr. Breit, evidence of dilatation above the suspected area. There is a disturbance of the normal feathery pattern of the small bowel mucosa. This has taken the form of a narrowed lumen with thickened and crowded transverse folds that some have described as a "picket-fence" configuration. Also, it has been called a "coral-ring" appearance. The margins are usually fairly sharp and in general it does not have the same appearance as a polypoid growth or ulcerated lesion. I appreciate that the radiologist can sometimes be fairly certain of the diagnosis and Dr. Breit's interpretation is considerably reassuring.

The form of treatment depends largely on the severity of the symptoms. Many internists feel these cases should be handled non-operatively. There are those that feel quite strongly that with this diagnosis surgical exploration and evacuation of the hematoma are indicated because of fear of the hematoma producing necrosis of the mucosa by pressure and the possibility of leakage and peritonitis. It would be extremely difficult to say in this case just what to do without having been there at the time. I think if the patient has relatively mild symptoms, is not totally obstructed, and seems to be doing fairly well I would be inclined to sit tight. There is also a possibility that this hematoma instead of resolving and being absorbed, may undergo organization and fibrosis with subsequent scarring and stricture of the bowel lumen. This has apparently been described but I would think that a decision for or against operative treatment would still be based on the symptom pattern and progress of the patient.

Dr. Barlow: Is there any further discussion?

Dr. Wallace A. Arneson:* I don't understand the decision to operate since there was improvement on the x-ray studies.

Dr. Dennis G. Ortmeier:** The patient must have had extensive bleeding into the bowel. He required four units of blood according to the chart.

Dr. Kenneth Muckala:*** What did the surgeon find at operation?

Dr. Barlow: Dr. Nelson, you attended this patient. Would you care to comment?

Dr. Robert E. Nelson:**** I operated because I was not sure a small bowel tumor could be ruled out. At surgery a segment of jejunum was

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purple and I thought of a segmental infarction of the small bowel, probably due to vascular disease. The thought of an intramural hematoma did not come to mind until later.

PATHOLOGICAL DISCUSSION

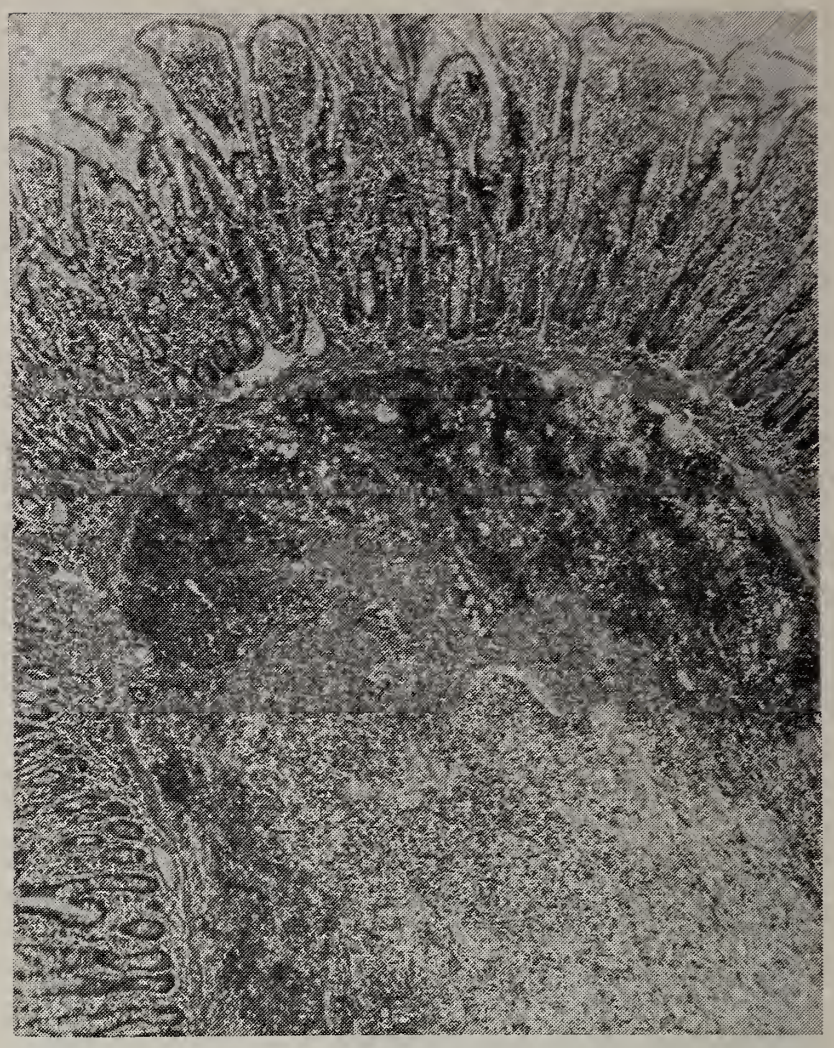
Dr. Barlow: Submitted was a segment of small bowel measuring 16 cm. long and 6 cm. in circumference. The serosa was smooth and glistening and the mucosa was intact. The wall was the site of an intramural hematoma as predicted by Dr. Ensberg.

The photomicrographs (figures II, III) show the characteristic pathology with both submucosal and intramural hemorrhage. The hemorrhage was both fresh and organizing attesting to the almost two week duration of the process. An important and diagnostic feature was the intact viable mucosa. In other conditions such as intestinal infarction of venous or arterial origin the mucosa is the first layer of the wall to show extensive destructive changes.

Various hemorrhagic complications of long term anticoagulant therapy such as hematuria, epistaxis, and ecchymoses are common (4-22%).[5] Major bleeding into the gastrointestinal tract has been reported in 1-2% of cases. Sometimes this uncovers an underlying process such as a gastrointestinal neoplasm. Epidural, abdominal wall, adrenal, pericardial, and retroperitoneal spontaneous hemorrhages have been described. Subacute intestinal obstruction has only recently been recognized due to hemorrhage secondary to anticoagulation although intestinal obstruction due to intramural hematomas usually in the duodenum and usually secondary to trauma has been known for a longer time. In none of these cases on anticoagulants was trauma apparently an important factor.

The patients in the series referred to above were all in an age group for atherosclerosis and males outnumbered females. This is to be expected from the general incidence of atherosclerosis and its complications. The onset of symptoms may be abrupt or gradual. There is usually severe cramping abdominal pain and distention in small bowel complications arising in patients taking anticoagulants. Vomiting with nausea and obstipation are often present. Bowel sounds are often hyperactive but may be variable. The site of the obstruction is usually the jejunum. Colon, ileum and duodenum have all been affected. The duration of anticoagulant therapy has been as short as a month but can be several years. In almost all cases the prothrombin time has been prolonged outside of

Figure II

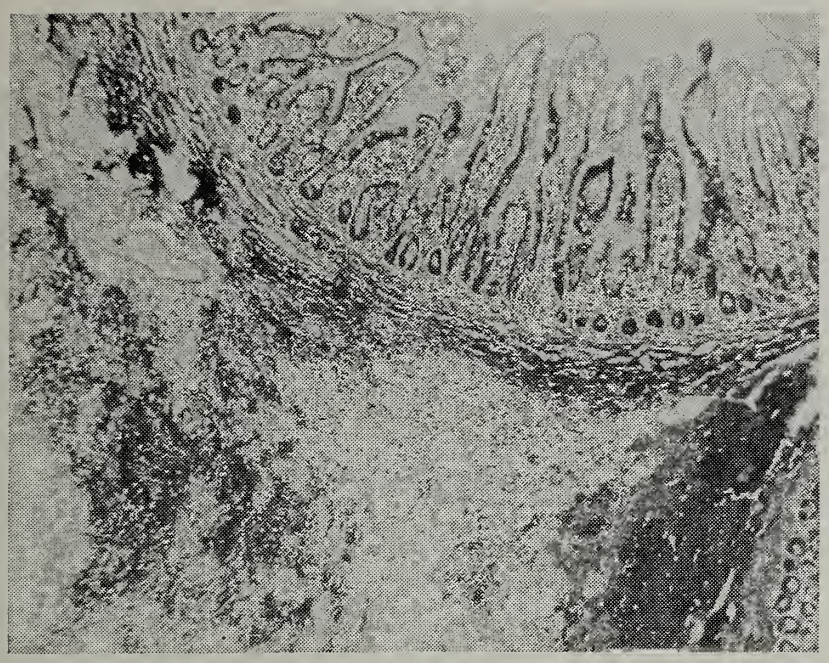


There is extensive hemorrhage into the submucosa but the mucosa is intact and viable. This would be very unusual for an ischemic process in which the mucosa is characteristically the first portion of the bowel to be affected.

Figure III

There is extensive hemorrhage into the muscularis as well as the submucosa.

Figure IV



Organization of the hemorrhage is present in many areas in the submucosa.

Photographs by W. Halbritter M.T. (ASCP)

the therapeutic range. Other signs of hemorrhagic phenomena such as epistaxis, ecchymosis or hematuria are often present but may be absent.

The pathology has already been described. The obstructive phenomena are due to encroachment of the mucosa on the lumen due to underlying submucosal hemorrhage. Paralysis of bowel function due to the hemorrhage may also play a part.

The roentgen picture has also been described in detail by Senturia (ref. 13) and Wiot (ref. 14). The picture of adynamic ileus is often present. The bowel wall appears to be thickened by an infiltrative process but the mucosa is intact. Other tests are not helpful. There is often a moderate leukocytosis. Anemia to more than a mild degree is unusual. Cessation of anticoagulants and administration of an anticoagulant antagonist such as vitamin K is necessary.

Both operative and nonoperative therapy have been employed. The nonoperative consists of intravenous fluids, vitamin K and nasogastric suction. The operative treatment consists of surgical resection of the affected part of the bowel wall.

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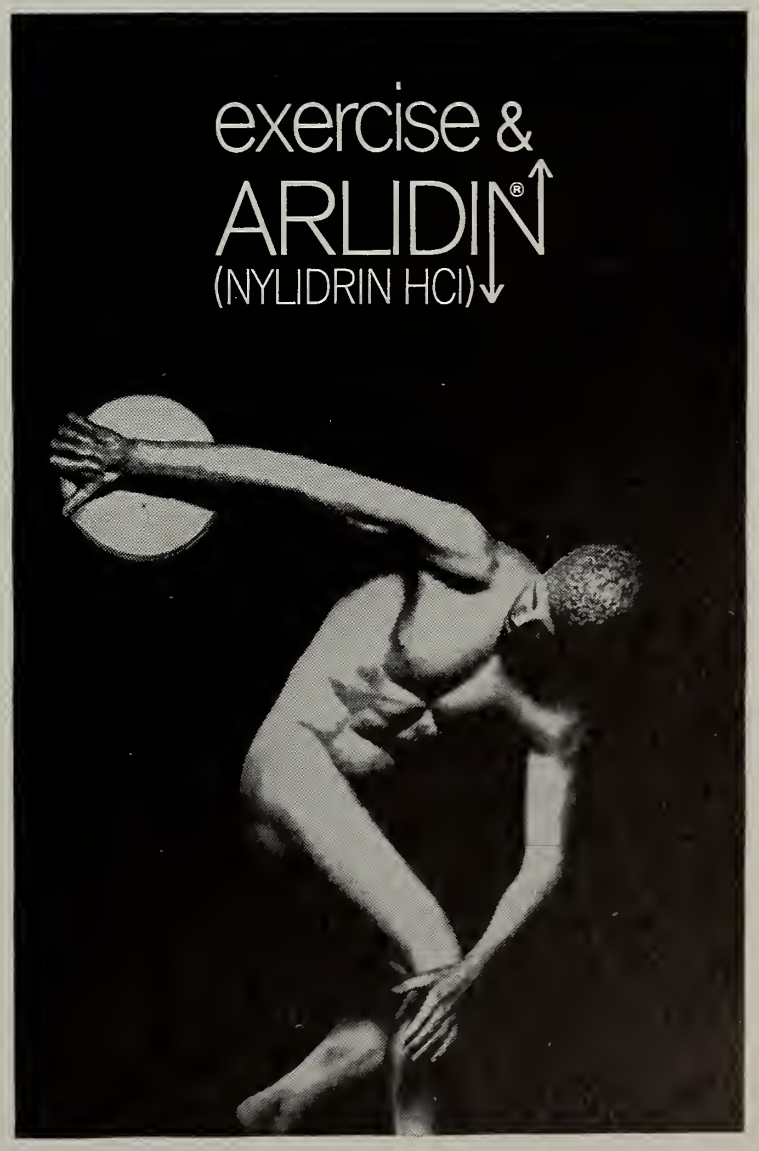

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — Volume 1, No. 4, April, 1948

Excerpt from "The Management of Acute Dermatitis"
By Helen Jane Hare, M.D.
Fellow in Dermatology and Syphilology, Mayo Foundation, Rochester, Minnesota

The management of acute dermatitis occasionally confronts almost every physician. By the term "acute dermatitis" is meant an acute, edematous, erythematous, vesiculopapular, weeping, crusting eruption which may occur from either internal or external causes. Other than to mention briefly a few of the more serious conditions which may be manifest in part by an acute cutaneous reaction, I shall confine my comments on the etiologic factors to those external irritants which produce dermatitis.

The simplest reaction of the skin is that to a primary irritant. A primary irritant may be defined as a substance which will produce an inflammatory reaction on almost any skin. A sensitizer, on the other hand, may be defined as a substance which is harmless to most persons but which will cause a cutaneous reaction in a few hypersusceptible persons. Nail polish may be cited as an example of a sensitizer.

Dermatitis due to primary irritants

The signs of dermatitis from a primary irritant are usually self-evident because of the pruritus and the acute weeping eruption which appears first of all on the surfaces which are exposed to the irritant. Success in ferreting out the offending irritant depends on the detective instinct of the physician. Most common offenders are the vegetable oils of poison ivy, poison oak and nettles. A history of exposure directly prior to the onset of the dermatitis usually can be obtained in these cases.

Editorial "I CALLED A DOCTOR"

A huge majority of the medical profession are logically opposed to compulsory government medicine as well they should be. And the majority of these practitioners are active or vocal in their opposition to such a plan. In the long run however, the decision for or against government medicine will come from the people, either as a "grass roots" movement or from a standpoint of lack of interest.

The decision will be made, not on the arguments of fifty high-powered public relations experts, but on the conduct of the individual doctor. Unfortunately, newspapers do not play up the hours of work put in by the doctor of medicine or the lives that are saved, but recently, as if by plan, are giving space to the story that quotes a sobbing mother "I called a doctor but he wouldn't make a call at night."

This type of publicity is on the increase and although it does not always give the true story, it is read by thousands and believed by most. The reader mulls it over in his mind and, forgetting the twenty night calls made by his doctor, remembers the one time he, too, could not get a doctor to come. He talks to a friend who remembers the doctor who did make a night call but who gave an insufficient amount of a sedative to the patient and when called in protest, doubled his bill for the second call. And, like a snowball rolling down hill, the resentment against the doctor grows, until it becomes a gigantic thing, capable of obliterating the smaller object that created it.

Dr. Lull, in his secretary's letter of February 16 had this to say about the situation: "Patients all over the country are voicing bitter criticism of the medical profession because of their inability to obtain the services of a physician at night. Scores of letters are being received at A.M.A. headquarters each week from patients who complain that doctors decline to make night calls.

"My baby became quite ill at 11 o'clock and I called a doctor," one letter said, adding: "But

the doctor told me that he never made night calls and urged me to call another doctor, whose name he gave me. That doctor didn't come either."

The writer urged the A.M.A. to "do something about this."

At the National Conference on Medical Service, held in Chicago, February 8, someone told the audience that a state legislator whose child was seriously ill called five doctors and got five turn downs.

These complaints, piling up at an alarming rate, present a grave problem. Every doctor call at night creates ill feeling toward the medical profession as a whole. Some medical societies are solving this problem by setting up a special phone service. When a patient phones a doctor anytime during the night and the doctor declines to make the call, he gives his medical society phone number to the patient. By calling the number, the patient is assured that a doctor will call.

Perhaps the medical profession in South Dakota can read Dr. Lull's words with receptive minds and plan to improve the situation now confronting them.

J. C. Foster

HISTORICAL SOCIETY RECEIVES RARE PUBLICATIONS

Dr. Gilbert Cottam, superintendent of the State Board of Health, has announced that he has turned over to the Historical Society two very rare publications that should be of interest to every doctor in the state.

These publications are: The Proceedings of the Dakota Medical Society 1882-1889 comprising 192 pages and The Chamberlain Typhoid Epidemic of 1932. The booklet on the proceedings of the Dakota Medical Society is the only copy in existence according to Dr. Cottam.

Excerpt from the MINUTES OF THE COUNCIL MEETING

Huron, South Dakota — March 21, 1948

The Council of the South Dakota State Medical Association held a meeting at the Marvin Hughitt Hotel in Huron, Sunday, March 21, 1948. The meeting was called to order by the Chairman, Dr. C. E. Robbins at 1:30 P.M.

On roll call the following were present: President—Dr. H. Russell Brown, Watertown; President Elect — Dr. J. L. Calene, Aberdeen; Vice President—Dr. W. H. Saxton, Huron; Secretary-Treasurer — Dr. R. G. Mayer, Aberdeen; Councilors: Dr. M. W. Larsen, Watertown; Dr. G. E. Whitson, Madison; Dr. C. E. Robbins, Pierre; Dr. L. J. Pankow, Sioux Falls; Dr. E. M. Stansbury, Vermillion; Dr. A. W. Spiry, Mobridge; Dr. D. A. Gregory, Milbank; Dr. F. D. Gillis, Mitchell; John C. Foster, Executive Secretary, South Dakota State Medical Association, Sioux Falls; Dr. J. A. Nelson, President, Sioux Falls Medical Society, Sioux Falls; Dr. Gilbert Cottam, Superintendent, State Board of Health, Pierre; Karl Goldsmith, Pierre.

The minutes of the last Council meeting, held November 2, 1947, were read and approved.

The Secretary read a letter concerning the occupational disease law which was passed at the last session of the legislature and which requires a panel of three members selected from nine nominations made by the Council of the South Dakota State Medical Association. Three of the nominees are to be versed in silicosis, three should be roentgenologists and three must have had at least five years experience in the practice of medicine. The following physicians were approved by the Council for this Panel: Dr. R. B. Fleeger, Lead; Dr. Robert J. Ogborn, Sioux Falls; Dr. H. F. Hansen, Vermillion. (All have had reasonable experience in the diagnosis, treatment and care of silicosis.)

Dr. Donald H. Breit, Sioux Falls; Dr. E. H. Brock, Rapid City; Dr. P. V. McCarthy, Aberdeen. (All are roentgenologists) Dr. J. L. Calene, Aberdeen; Dr. Wm. Duncan, Webster; Dr. B. F. Lenz, Huron. (All have had at least five years experience in the practice of medicine.)

Motion was made by Dr. Gregory, second by Dr. Saxton and carried, that the above list be submitted to the Governor.

25% OF PRIVATE PSYCHIATRIC PATIENTS HAVE COVERAGE

Every fourth patient seen by a psychiatrist in private practice has health care protection to cover part of the fee, according to a new study sponsored by the American Psychiatric Association and the National Association for Mental Health. The report shows that the number of persons having some mental illness coverage under Blue Shield and Blue Cross has grown to 49 million, which represents about 50 percent of this type of coverage. The study also shows that among all those covered, the largest group — 44 percent — had policies providing 50 percent reimbursement; 36 percent had 80 percent reimbursement, and 20 percent had less than 50 percent reimbursement.

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

BLOOD ALCOHOL

Ethyl alcohol is of medico-legal importance not only because of its ability to cause drunkenness and even death after excessive ingestion, but also because of its synergistic toxic action with various drugs and the pharmacological action of depressing the central nervous system. The depressant effects of alcohol on the CNS include lessened efficiency of the fine senses including taste, touch, vision and hearing, impaired coordination of voluntary muscles, and deterioration of judgment and self-control. Because of these effects in cases of automobile accidents, felonies, and various other criminal investigations it becomes desirable and necessary to determine and evaluate the alcohol content of the body fluids of individuals.

Pharmacology. The local action of alcohol is that of an irritant to skin and mucous membranes. It is one of the few materials that is absorbed directly from the stomach and therefore is distributed rapidly throughout the system. Absorption is slower when food is present in the stomach and intestines. Once absorbed it is distributed rapidly to all body tissues in proportion to their water content. The liver oxidizes much of the ingested alcohol to carbon dioxide and water. Portions of the alcohol are excreted in the urine and in exhaled air.

The chief toxic effect follows absorption into the brain where first the cerebrum and then the cerebellum, spinal cord, and medulla are affected. The total disappearance of alcohol from the body is, for all practical purposes, linear. Blood alcohol content decreases approximately 0.01-0.2%/hour.

Specimens for Alcohol Determination. Blood and breath alcohol values are those most commonly determined. In certain cases, the alcohol content of the brain would be of more significance in determining the state of intoxication. However, it has been shown that the content of alcohol in blood is proportional to that in the brain, with the brain concentration approximating 90% of the blood level. Hence, blood is the specimen of choice. It should be noted that serum or plasma levels of alcohol are approximately 16% higher on a volume basis than that of whole blood (because of their greater water content).

The **urine/blood** alcohol ratio is about 1.25. The **saliva/blood** alcohol ratio is about 1.20. **Spinal fluid/blood** alcohol ratio is about 1.14.

The gas in the lung alveoli attains equilibrium with pulmonary blood with regard to alcohol. The **alveolar air/blood** alcohol ratio is about 1/2100; the analysis of breath yields a reliable and widely used estimate of the concentration of alcohol in the alveolar air and in the arterial blood.

In evaluating the different levels of alcohol in organs and excretions, it should be remembered that during the early absorption phase alcohol distribution throughout the body is not constant. Thus there may be a relatively high concentration in the exhaled air before equal saturation is attained in the brain. Likewise, the residual urine in the bladder may contain large amounts of alcohol at a time when the brain level has dropped to a level that indicates relative sobriety. For this reason the use of urine as a test substance should be restricted to the second of two specimens collected at one half to one hour intervals.

Analysis for Alcohol. Tests for alcohol concentration are based on three general methods: (1) oxidation of the alcohol by strong oxidizing agents, (2) gas chromatography, and (3) enzymatic alcohol dehydrogenase.

Chemical determinations and breath tests are all based on the use of oxidizing agents such as dichromate, permanganate, iodine pentoxide and others. These tests are for the most part nonspecific, and other substances such as acetone, ketone bodies, methyl alcohol, methenamine and formaldehyde will give positive reactions. **Their presence or absence must be determined in the specimen.**

Gas chromatography is a reliable and specific means of identifying and quantitating ethyl alcohol as well as for differentiating between volatile interfering substances.

The enzyme alcohol dehydrogenase oxidizes ethyl alcohol to acetaldehyde and is quite specific for ethyl alcohol.

In important medico-legal cases where a high concentration of blood alcohol has been found by an oxidation chemical test it may be wise to verify the analysis by another method.

The signs of alcoholic intoxication are well known. In cases of coma, however, it is well to remember that although the subject may appear to be, and actually may be intoxicated,

the coma can be due to other causes such as skull fracture, brain tumor, apoplexy, uremia, hyperinsulinism, diabetic acidosis or ruptured viscus. It is imperative that the condition of the patient be diagnosed rapidly and accurately.

Blood Alcohol Concentration vs. Intoxication. Authorities differ on the concentration of alcohol in blood required to produce intoxication. In certain European countries blood alcohol levels at which prosecution will be undertaken is much less than in some areas of the United States. At present the following values are generally accepted in the United States. (A.M.A. Los Angeles meeting, 1962).

Blood Alcohol Content (%)	Remarks
0.0 -0.05	No chemical evidence of being under the influence of alcohol
0.05-0.10	Possibly under the influence of alcohol; corroborative evidence necessary
0.10-0.15	Under the influence of alcohol; all individuals in this range show impairment
0.15-.20	Many state laws require 0.15% as prima facie evidence of intoxication
.25-.30	Marked intoxication
.30.-40	Dead drunk
√.40	Comatose; may lead to death

Alcoholic effects are heightened in the presence of depressant drugs such as barbiturates, morphine, chloral hydrate, paraldehyde, anticonvulsants, antihistamines, or tranquilizers. Carbon monoxide also produces additive effects. Every comatose patient should have an initial barbiturate determination as well as a blood alcohol determination.

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AMA REAFFIRMS CONFIDENCE IN AAMA

A new vote of confidence was given to the American Association of Medical Assistants by the AMA House of Delegates at its clinical meeting in Houston. The resolution stated that every doctor should encourage his medical assistants to join and to take an active role in the AAMA's education and certification programs.

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THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

BRAIN DRAIN

Quite logically, the South Dakota Medical School tries to admit to its freshman classes those students who are best prepared to study medicine. The selections represent the best judgment of the Admissions Committee based on all the data they have at their disposal. The Admissions Committee is composed of two Ph.D.'s and two M.D.'s.

That our school loses some of the best resident students to other medical schools, both public and private, is evident from a quick perusal of the data published annually in the JAMA. The following table shows the number of South Dakota resident students who were admitted to freshman medical classes elsewhere:

YEAR	STUDENTS	YEAR	STUDENTS
1956	14	1962	8
1957	8	1963	8
1958	12	1964	8
1959	9	1965	9
1960	14	1966	5
1961	3	Average	9/Yr.

Data from the JAMA, 1957 to 1967

In view of the fact that some 9,000 freshmen are admitted to medical schools each year, 9 students doesn't seem to be too significant. However, South Dakota's entering classes have been limited to 44 students (more recently, 49) so 9 students per year represented 20% of the previous classes and is 18% of the present class size. In 1956 and again in 1960, 32% of the potential class chose to attend medical school elsewhere.

The fact that these students were accepted in other public and private medical schools indicates they were very good students. The data that is being accumulated for withdrawals from the 1968 entering class bears this out. In view of this loss of good resident students, the South Dakota Medical School must accept a comparable number of qualified non-resident students in order to maintain acceptable academic standards. It is interesting that so many residents pass up reduced tuition rates for their first two years in order to attend 4-year schools, the same ones, by and large, they could have attended anyway as juniors and seniors.

—CRG

CURRENT RESEARCH PROJECTS

The faculty receive research support from several sources for a variety of research projects. We take this opportunity to acquaint you with these projects, their principal investigators and the source of funds.

Dr. Scott:
1. Electron microscope study of aging — USPHS
2. Histopathology of amino acid deficiencies (19th year) — USPHS

Dr. Neuhaus:
1. Biosynthesis of plasma proteins — USPHS
2. Effect of whole body irradiation on synthesis of serum proteins — AEC

Dr. Marshall:
Homocarnosine metabolism in the brain — USPHS

Dr. Peanasky:
Purification of proteins with biological activity — USPHS

Dr. P. Smith:
1. Comparative physiology of Mycoplasma and L-type organisms — ONR
2. Lipids of Mycoplasma — USPHS

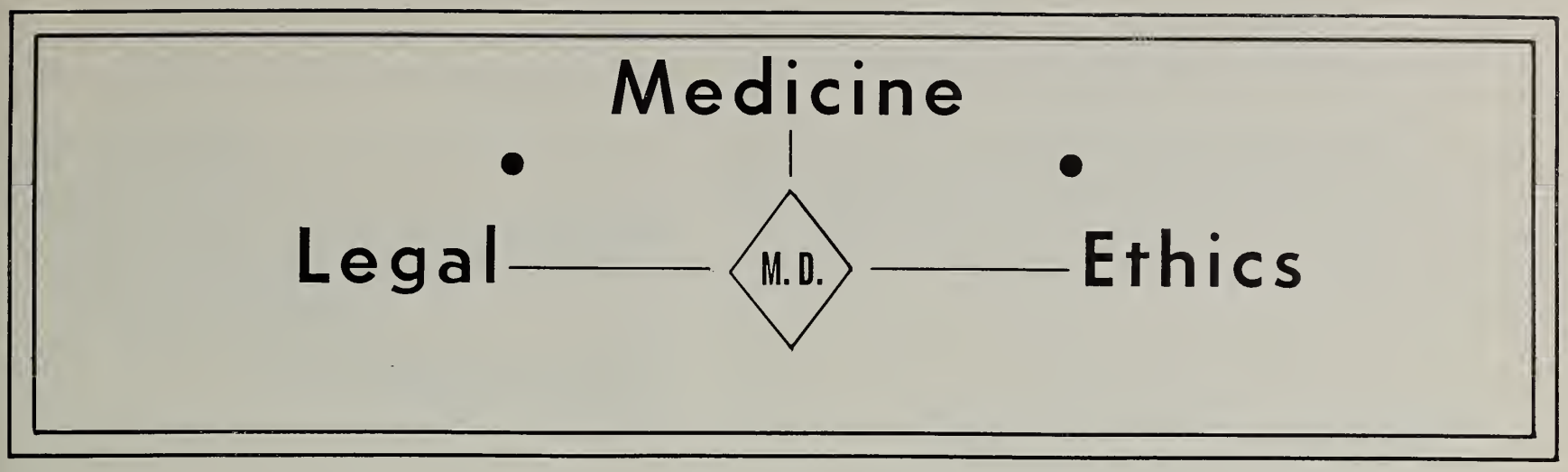
Dr. Adams:
Genetic recombination in Nocardia spp. — USPHS

Dr. Gaush:
1. Lipids of virus infected cells — USPHS
2. Analysis of the cytoplasmic membranes of mammalian TC cells — American Cancer Society (SD Division)

Dr. Lynn:
1. Immunochemical analysis of Mycoplasma — NSF
2. Role of L-forms in sequellae of acute infections — USPHS

Dr. Read:
Taurine in the heart antifibrillatory potential — USPHS

Dr. Welty:
1. Taurine as an antiarrhythmic agent — South Dakota Heart Assn.
2. Amino acids of contractile proteins of failing hearts — USPHS



PATIENT'S SUIT AGAINST HOSPITAL DISMISSED

In a suit for damages against a physician and a hospital by a patient for injuries allegedly caused by the physician's negligent treatment of him while he was in the hospital, a trial court did not err in granting the hospital's motion for summary judgment, a Florida appellate court ruled. It was not alleged that the injuries were caused by any active negligence on the hospital's part. The patient's case against the hospital was based on the doctrine of **respondeat superior** and on the hospital's alleged negligence in permitting the physician to use its facilities. Since the record showed that no question of fact existed with respect to those contentions, the hospital's motion for summary judgment was properly granted.

STATE STATUTE SUPERSEDES COURT RULE ON FURNISHING MEDICAL REPORTS

In a patient's suit for damages against a hospital for malpractice, the patient was entitled to a detailed written report of the hospital's examining physician, even though the Rules of the Appellate Division do not provide for an exchange of medical reports in malpractice cases, a New York trial court ruled. The Civil Practice Law and Rules provide for the exchange of medical reports, and they further provide that they shall govern in all judicial proceedings in all courts in the state. A case in which the Rules of the Appellate Division were upheld was decided before the effective date of the Civil Practice Law and Rules.

Information provided by the Law Department of the American Medical Association, 535 North Dearborn, Chicago, Illinois.

$1,500,000 DAMAGES AWARDED PATIENT WHO CONTRACTED ENCEPHALITIS AFTER SURGERY

In a suit against two physicians and a hospital, a patient who contracted encephalitis after a hemorrhoidectomy and a spot ligation of varicose veins was awarded damages of $1,500,000 by a Florida trial court jury. The patient went into a coma two days after the operation and has been paralyzed from the neck down ever since.

ASSOCIATIONS BETWEEN DOCTORS OF MEDICINE AND OPTOMETRISTS

It is unethical for a doctor to hire an optometrist as an assistant if the optometrist is held out to the public or to the doctor's patient as a doctor of optometry or as a licensed optometrist. It is not unethical, however, for a doctor of medicine to hire one who may have been trained or who may have a degree in optometry if the individual so hired is not held out or does not hold himself out to the public as an optometrist. In accordance with the policy of the House of Delegates classifying optometrists as irregular practitioners, the Council has expressed the opinion that, while a doctor of medicine may utilize the services of one trained or licensed in optometry, he may not by his association with the optometrist raise the practice of optometry to the same high plane as medical practice.

EXPOSURE OF UNETHICAL CONDUCT

A physician should expose, without fear or favor, incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession. Questions of such conduct should be considered, first, before proper medical tribunals in executive sessions or by special or duly

appointed committees on ethical relations, provided, such a course is possible and provided, also, that the law is not hampered thereby. If doubt should arise as to the legality of the physician's conduct, the situation under investigation may be placed before officers of the law, and the physician-investigators may take the necessary steps to enlist the interest of the proper authority.

RESPECT OF PATIENT'S TRUST

It is unethical and contrary to Section 4 of the Principles for a physician to be false in any manner to the trust imposed in him by his patients.

NEGLECT OF PATIENT

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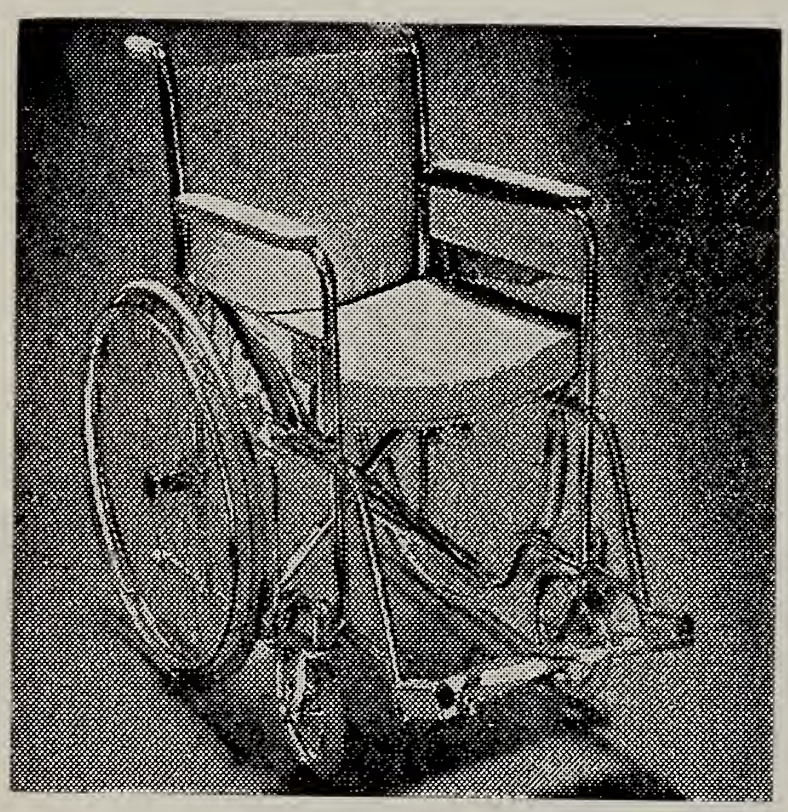

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THE MONTH IN WASHINGTON

Dr. Dwight L. Wilbur, president-elect of the American Medical Association, warned that physicians will resist any effort to establish national medical standards under the Regional Medical Programs.

But he predicted that the medical profession would cooperate enthusiastically if the programs are carried out on a voluntary cooperative basis.

Dr. Wilbur spoke at a conference on Regional Medical Programs sponsored by the Department of Health, Education and Welfare.

"If the program in fact is clearly one designed to catalyze and to facilitate the development of better programs than now exist to serve patients and their physicians, it will undoubtedly receive enthusiastic cooperation from the medical profession and related groups," Dr. Wilbur said. "We know that the law and its legislative history stress the voluntary cooperative nature of the program and that interference with existing patterns is specifically prohibited . . .

"Unlike many other countries, our nation has reached its preeminence in many areas of activity because of this unique combination of multiple independent focal points of activity cooperating on a voluntary basis to achieve a commonly desired goal . . .

"If RMP maintains its current emphasis on the working together of regional groups, it will fulfill its purpose of improving the quality, accessibility and availability of health care, physician and institutional performance, and consumer satisfaction.

"On the other hand, if RMP becomes an instrument for the establishment of national standards with the coercive compliance compelled by such standards, it will arouse nationwide resistance from physicians, institutions, and allied health professionals. What can be gained by cooperation and meaningful participation will surely be lost if the use of coercive power, which for the moment lies dormant in Public Law 89-239, becomes its dominant characteristic . . .

"RMP is in a strategic position to bring about changes acceptable both to physicians and their patients that will improve performance and patient satisfaction without undermining patterns of behavior that are traditional, and, more significant, considered by the medical profession essential to the preservation of high quality care."

* * * *

The American Medical Association told Congress that weight reduction is a leading health area for quackery.

The AMA position on weight reduction, particularly as so-called diet pills are involved, was outlined by Drs. Theodore B. Van Itallie of New York, N. Y., a member of the Council on Foods and Nutrition, and Harry C. Shirkey of Birmingham, Ala., vice chairman of the Council on Drugs, in testimony before the Senate Antitrust and Monopoly Subcommittee.

The subcommittee was investigating reports that some osteopaths and physicians were making large incomes from assembly-line administration of multi-colored "diet" pills containing such drugs as barbiturates, thyroid extract, amphetamines, thiazine, diuretics, laxatives and various hormones.

Officials of Illinois and Oregon testified that such pills were involved in at least 20 deaths in their states.

"Perhaps in no other area of health and medical problems do we encounter as much food faddism and quackery," Dr. Van Itallie testified. "The obese are extremely gullible, forever willing to believe that someday a gadget, a diet, a pill, or a book will lead to the miracle of easy and painless reduction of weight. While most of the quackery originates with health hucksters who have no scientific background, train-

ing, or qualifications in the medical or nutritional fields, unfortunately a physician is occasionally involved.

"The American Medical Association has long utilized its various publications to bring to the profession and the public up-to-date information on the latest scientific advances in the area of obesity control. It frequently focuses attention upon those irregular practitioners and faddists who prey upon the unsuspecting public. As the national voice of Medicine, we believe that it is incumbent upon us to help protect the public from those practices which have the potential of adversely affecting the public health . . .

"A physician who assumes the responsibility for treating obesity takes on a difficult role. Few other medical disorders require the same disciplined and prolonged cooperation of the patient in their treatment. Even under the best of circumstances, the results of treatment become apparent slowly. The inherent handicaps may strain the busy physician's patience and tempt him to resort to unsound methods of treatment. He must have a clear understanding of the physiological and psychological problems of obesity in order to treat it wisely."

Dr. Shirkey broke down weight drugs into seven general classifications: (1) cardiac glycosides; (2) hormones, chiefly thyroid; (3) diuretics; (4) anorexiants (appetite suppressants); (5) laxatives; (6) sedatives; and (7) antispasmodics. Of them he said:

Cardiac glycosides: "Their use for obesity is reprehensible and may well have attributed to the few reported deaths of patients receiving such treatment."

Hormones — Thyroid: "There are at least three irrationalities . . . in this hormonal approach to the treatment of obesity."

Diuretics: "There is no rational basis for the use of diuretic drugs in the treatment of simple obesity."

Anorexiants: "Amphetamines are useful as a crutch to help the patient become accustomed to a rigorous reducing diet. But long-term administration is not justified because they tend to become less effective and, in addition, can lead ultimately to habituation."

Laxatives: "There is little rational basis for the use of laxatives in the treatment of obesity."

* * * *

President Johnson said the administration would take additional steps to abate the increases in health care costs and to increase the numbers of health personnel.

In his economic message to Congress, he said:

"The supply of qualified health personnel has lagged behind the expanding demand. I will shortly propose new measures to increase this supply.

"Last year, medical care prices rose 7 percent, more than twice as fast as other prices. I shall propose new measures to slow down the spiraling cost of health care."

In his State of the Union message, the President included in a list of "absolutely intolerable" conditions which he said had existed for many years: "Hospital and medical costs are high, and they are rising." He did not amplify the brief statements in either of these two messages, leaving the details for a later health message to Congress.

Chairman Abraham A. Ribicoff (D., Conn.) said the Senate Government Operations Committee would conduct a two-year investigation into the rise in hospital and other health care costs. He said the subcommittee's study also would be concerned with the numbers of physicians and other health personnel.

Mr. Johnson said he also would propose a child health program and stricter penalties for those who traffic in LSD and other dangerous drugs. The child health program would provide poor families over the next five years with health service from prenatal care of the mother through the child's first year.

The budget for the Department of Health, Education and Welfare allotted $66 million for medical education in fiscal 1969, for the year beginning next July 1, an increase of more than $16 million. Federal aid for allied health training was decreased from $19 million to $17.2 million.

Medicare expenditures for fiscal 1969 were estimated at $6.3 billion, compared with $5.7 billion for the current fiscal year.

Family planning programs of the federal government would be greatly expanded. The goal is to provide birth control information to one million women by quadrupling the size of the family planning services budget from $6 million to $24 million.

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RHEUMATIC FEVER PROPHYLAXIS

E. H. Heinrichs, M.D.

At a time when Federal programs in medicine blossom all over like dandelions in summertime, it is a refreshing sight to see that progress can be achieved without "big brother" in Washington, D. C. South Dakota has made a good step forward in the prophylaxis of rheumatic fever and has now an up-to-date program.

But most important, this program was developed by a few concerned persons and in cooperation with the South Dakota Heart Association, the South Dakota State Department of Health, the South Dakota Pharmaceutical Association and the South Dakota State Medical Association. The details of the new program have been sent to all physicians and pharmacists in the State.

The old program, good and modern in its time, was overtaken by economic and scientific developments unforeseeable at its initiation. A revamping was necessary and so the whole program was completely redesigned.

Let it be said to those of us who are against any kind of program: Certain problems in medicine cannot be solved without an organized plan. Most of the infectious diseases have been conquered this way: Malaria, tuberculosis, venereal disease — to name a few. However what sets the South Dakota Rheumatic Fever Secondary Prevention Program apart from all others is: It is a private program, no tax money is spent for buying medications, and the only cost borne by the sponsoring organizations are those of the operation of the registry and the necessary follow-up studies and supervision by physicians.

Another important feature is that the private physician is put back in the driver's seat. He is in complete charge of the program, has the supervision of the patient at any given time and can make decisions for changes whenever necessary. Thus, a second rheumatic fever attack should be an extreme rarity from now on in South Dakota. Under the old program, it was possible that a patient according to the records of the Rheumatic Fever Registry was taking his medication and would receive, therefore, continued prescriptions while in reality he had skipped the program several years back. Now within two to four months, the dropout will be known and efforts can be started to regain him for the program. Furthermore, the Registry was probably incomplete inasfar as many patients were not placed on the program since they could obtain medication cheaper than through the program. This has now been corrected.

The program has also been enlarged, Bicillin L.A. (1.2 million units) has been added. The physicians of South Dakota have now available the whole spectrum of prophylactic drugs in their armamentarium. And they are able to include every one of their rheumatic fever patients since the dubious question about indigency has been dropped from the questionnaire.

The medical control is carried out by physicians on the Rheumatic Fever Committee of the South Dakota Heart Association so as to assure quality and expert advice.

Finally a word about the comparative effectiveness of the three prophylactic regimes of-

fered: One well controlled study[1] obtained the following recurrence rates of rheumatic fever per hundred patient years:

Benzathine Penicillin G. (1.2 million units IM every 4 weeks)	.4 cases
Oral Penicillin (200,000 units once daily before breakfast)	5.5 cases
Sulfadiazine (1 gram daily orally in a single dose)	2.8 cases

Oral sulfadiazine in the advised dosage has been as effective or even more effective as Potassium Penicillin G. 200,000 units once or twice daily.[2] (It should be noted that the recommendation of the Rheumatic Fever Committee is 200,000 units Potassium Pencillin G. given twice daily).

The degree of fidelity with which patients adhere to their prophylactic regime has of course a bearing upon the success of the program. This would best be assured if the patient has to return monthly to his physician for his intramuscular injection of Bicillin L.A. (1.2 million units), which just happens to have the lowest recurrence rate even when the oral medication was faithfully maintained.[3]

Prophylaxis should be started as soon as a diagnosis of rheumatic fever has been established, regardless of whether the disease is active or quiescent, with or without rheumatic heart damage. The prophylactic program should continue for at least five years after the last acute attack.[4] However since the risk of acquiring a streptococcal infection and the possibility of recurrent attacks of rheumatic fever continues throughout life, it is the safest general procedure to continue prophylaxis indefinitely, particularly if rheumatic heart disease is present.[5]

This is your program, use it to the betterment of your patients!

E. H. Heinrichs, M.D.

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EXPLANATION OF FEES PAID BY DOCTORS LICENSED IN SOUTH DAKOTA

Many misunderstandings and misconceptions exist in the minds of doctors in South Dakota concerning various fees and dues paid each year.

The following information may clarify the situation.

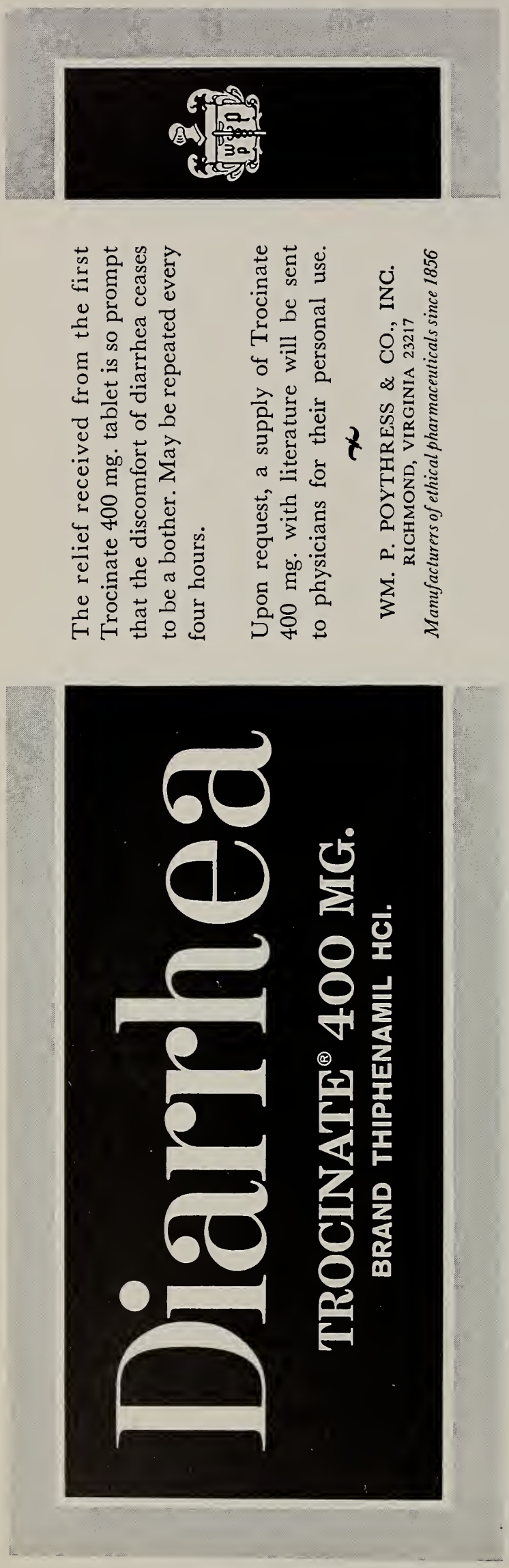
The South Dakota Board of Basic Science Examiners bills physicians practicing in South Dakota $10.00 each year to renew their South Dakota Basic Science certificates. This money is used by the Basic Science Board to pay their operating expenses and to conduct prosecutions of illegal practitioners within the borders of South Dakota. Many injunctions have been issued against reflexologists and others practicing the healing arts without proper licensure. This renewal fee is paid by all doctors of medicine, doctors of osteopathy, and doctors of chiropractic.

The South Dakota State Board of Medical and Osteopathic Examiners is completely autonomous from the Basic Science Board. The Board of Medical and Osteopathic Examiners issues licenses to practice medicine, surgery, and osteopathic medicine in South Dakota. Initially, when a doctor is licensed, he pays $40.00 as the examination fee or $90.00 as the reciprocity fee.

Each year all doctors licensed by this Board are billed for the annual registration fee of $5.00. The funds collected from these fees cover all operating expenses of the Board — supplies, salaries, investigations, rent, actual Board meeting expenses, postage, printing, and travel.

These two Boards are established by State law; the members of the Board are appointed by the Governor and all fees are set by State statutes. The two Boards' funds are in separate accounts and are expended according to State laws and regulations. However, no tax funds may be used. The Basic Science Board operates from the office of John Zimmer, Attorney at Parker, South Dakota; while the Board of Medical and Osteopathic Examiners is located at the Executive Office, 711 North Lake Avenue, Sioux Falls.

The functions of these Boards are completely separate from the State Medical Association and local, state or AMA dues **are not** utilized in any way in carrying out the duties and obligations of these licensing agencies.



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LETTERS TO THE EDITOR

OHIO STATE MEDICAL ASSOCIATION
Brooks Ranney, M.D., and
The Editor
South Dakota Journal of Medicine
711 North Lake Avenue
Sioux Falls, South Dakota 57104
Gentlemen:

We are in receipt of your January 1968 issue, South Dakota Journal of Medicine, Volume XXI, No. 1, and hasten to reply with appreciation.

You are to be congratulated on publishing a well rounded set of articles pertinent to modern, practical obstetric care. Our committee, and the Ohio State Medical Association, is honored to have contributed to the project with the article on "Paralytic Ileus."

Particularly, the third section, "Babies: General Statistics" presented some highly interesting results in a practical vein.

If we can be of any assistance in future participation, kindly advise us.

Sincerely yours,
Anthony Ruppersberg, Jr., M.D.
Chairman
Committee on Maternal Health

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The first International Symposium on Dextrans will be held at Galveston Island, Texas on Sunday and Monday, May 19 and 20, 1968. Entitled CURRENT CONCEPTS OF THE BASIC ACTIONS OF DEXTRANS AND THEIR CLINICAL APPLICATION IN THE CARDIOVASCULAR AND RELATED FIELDS, the symposium is cosponsored by the Texas Heart Association, the Council on Circulation of the American Heart Association, the Postgraduate Education Division of the University of Texas Medical Branch, the University of Minnesota Medical School and the Georgia Institute of Technology — Biomedical Division.

Researchers from Europe and the United States who have carried out extensive research studies on the Dextrans for 20 years or more will participate in this important two-day symposium. Program planners advise that the major emphasis of the symposium will be placed on the use of Dextrans in the cardiovascular field.

Programs, advance registration, and hotel reservation forms for the Dextran Symposium may be obtained by writing or calling the Texas Heart Association, P. O. Box 25041, Houston, Texas 77005 — Area Code 713 — JAckson 6-4194.

MEDICARE COSTS UP

Medicare expenditures are expected to reach $6.3 billion during the next fiscal year, according to the federal government. Breakdowns in the new budget estimates for fiscal 1969 place hospital payments at $3.8 billion, medical payments at $1.6 billion, and administrative expenses at $856 million. Current year figures are $3.4 billion, $1.5 billion, and $795 million respectively. According to the government, federal Medicaid payments will reach $2.1 billion — an increase of $311 million.

HOSPITAL COSTS UP 14.3%

Total average cost of a day in the hospital amounted to $55.82 in the year ending Sept. 30, 1967, according to the American Hospital Association. This was $6.99, or 14.3 percent, more than the previous year. In its testimony before the House Ways and Means Committee last year, the AHA predicted that hospital costs per patient-day would reach $57.93. Dr. Edwin L. Crosby, AHA director, said that one of the factors that accounted for the lower figure was that "as it turned out, the salary increases from March through September were slightly less than anticipated."

ADA SAYS DENTAL X-RAYS ARE SAFE

Dental X-rays made with modern equipment and techniques are completely safe, the American Dental Association emphasized recently in an effort to counteract misleading and inaccurate newspaper stories supposedly based on an article appearing in the Association's February **Journal.** In this article, the ADA said it was "simply restating and clarifying longstanding policy about the use of X-rays." Like any medication or anesthetic, ADA said that X-rays "should be used according to the individual needs of the patient and the indicated treatment procedure" and that this is a policy "which the vast majority of dental practitioners are following."

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Why Mrs. Slotin didn't cash in Martha Reinecker's Savings Bonds

During the Korean War, Martha Reinecker signed up for the Payroll Savings Plan. Every month $37.50 was deducted from her pay check, and she received a $50 Bond.

A few years later, Martha married Nathaniel Slotin, transferred the Bonds to her husband's safety deposit box and forgot about them.

Recently, a friend reminded Mrs. Slotin that her Bonds had matured a couple of years ago and that she should cash them in. Well, Mrs. Slotin found out that instead of the $50 she had expected, her Bonds were now worth $53, $54, $55 and more, and still earning interest. So after having them reissued in her married name, she let them continue to work for her.

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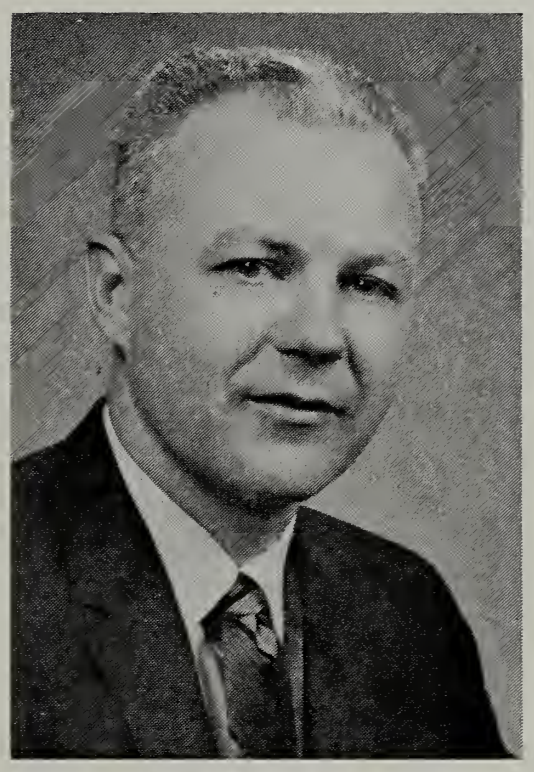
PRESIDENT'S PAGE



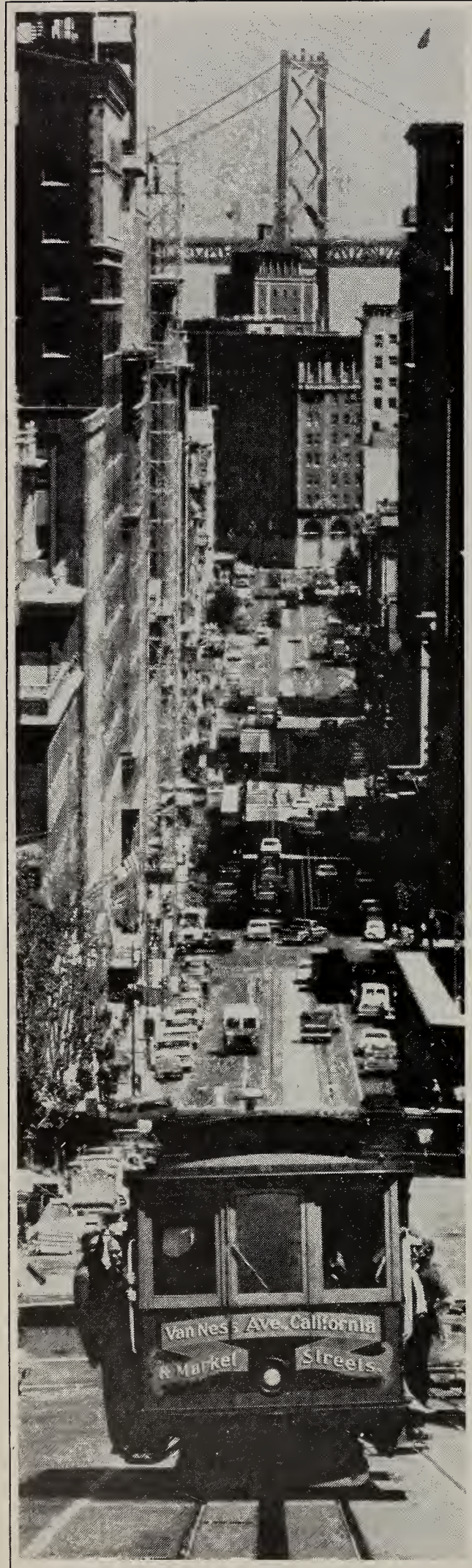
What makes a State Medical Association click? Each successful State Association will have its own formula, but all must have these three elements: (1) Interested and knowledgeable physicians who are willing to give of their time and talents. (2) An Executive Secretary and staff with the know how and dedication to serve the Association and its physician members. (3) Adequate financing.

Spend a day as I did recently observing our Commissions in session and you will know that we possess ♯1.

Work closely as I have this past year with Dick Erickson and his staff and you will know that we are strong in ♯2.

Contemplate what has happened to your own business overhead these past several years. Our Association budget has been buffeted by the same increased costs and dollar erosion that each of us has witnessed in our own practice. Our State dues have not changed in the past **six** years. No change is anticipated next year, but the budget is very tight. If present economic trends continue, a dues increase cannot be avoided.

JOHN J. STRANSKY, M.D.
President



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In addition the AMA TV network will present more than 40 hours of convention news.

Reserve now for the Scientific Awards Dinner in honor of the Scientific Award Winners—Wednesday, June 19, 1968. Since space is limited, we suggest you make your reservations before June 3, 1968. Tickets are $10.00 each, payable in advance.

The complete scientific program, plus forms for advance registration and hotel accommodations, will be featured in JAMA, May 6, 1968.

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AMERICAN MEDICAL ASSOCIATION'S 117th ANNUAL CONVENTION · BROOKS HALL

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News Notes • Changes • Births • News

Pop's Proverb

The age of physical retirement is no excuse for retiring your mind.

Walter Patt, M.D. has been named president of the Brookings United Retirement Center Board.

* * *

At a meeting of the Tri-Valley PTA in the Lyons auditorium **Chris Moller, M.D.** of Dell Rapids presented slides and a narration on his experiences as a doctor serving Vietnamese civilians.

* * *

George Knabe, M.D., Dean of the School of Medicine, recently presided at an open house in the Department of Biochemistry at the University of South Dakota.

* * *

In Codington County the National Foundation's campaign against birth defects was assisted by a Medical Advisory committee which included **E. H. Heinrichs, M.D., Parry S. Nelson, M.D.** and **Gerald E. Tracy, M.D.**

* * *

The St. Luke's Hospital Medical Staff in Aberdeen elected **A. J. Janusz, M.D.,** chief of staff for the coming year. Others elected included **D. J. Destache, M.D.,** vice-president; **G. H. Steele, M.D.,** secretary-treasurer.

William Hoewing, M.D. spoke to the members of the Happy Losers TOPS Club on "Obesity" at their meeting in Hot Springs, S. D.

* * *

The Board of Directors of Dakota Midland Hospital announced the re-election of **Robert Bormes, M.D.,** Aberdeen, as president, and **J. A. Eckrich, M.D.,** Aberdeen, second vice-president.

* * *

At the Yankton District Meeting held at Yankton State Hospital, **John J. Stransky, M.D.,** president of the South Dakota State Medical Association, made his official visitation and discussed problems of concern to doctors in South Dakota.

YOUR CONTRIBUTION TO THE SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT FUND IS NEEDED

Charles L. Swanson, M.D. spoke on "Medicine in the News" to the Pierre Faculty Wives.

* * *

J. P. McCann, M.D. spoke on his experiences as a Medical doctor on a volunteer tour of duty in Vietnam at a meeting of the Parkston PTA and also at a Youth Convention in Delmont.

* * *

The South Dakota Society of Internal Medicine named **Clark Johnson, M.D.,** Yankton as delegate to the regional meeting of the American Society of Internal Medicine in Phoenix, Arizona.

* * *

The Watertown District Medical Society sponsored a course for nurses under the direction of **Carroll J. Clark, M.D.** instructing them in the use of new acute coronary care units. Other instructors included **Alan K. Brevik, M.D., T. J. Wrage, M.D.** and **James C. Larson, M.D.**

* * *

During a meeting of the Elkton Commercial Club, **E. S. Watson, M.D.,** Brookings, spoke on Mental Health and the Brookings Area Guidance Center.

* * *

Bruce Lushbough, M.D. has been named to a three year term on the Board of Directors of the Brookings Area Guidance Center.

Stephen Brzica, M.D., Sioux Falls, was honored as outstanding physician of the year at a luncheon in Pierre sponsored by the Governor's advisory committee on employment of the handicapped.

* * *

The American Academy of General Practice has announced the appointment of **A. P. Reding, M.D.** to a one-year term on its Committee on Mental Health.

* * *

The Watertown hospitals have announced the appointment of **Duane G. Monson, M.D.** as radiologist.

* * *

Gerald Tracy, M.D., Watertown, conducted a marriage seminar at St. Michaels Parish Hall in Clark, S. D.

* * *

Bruce Lushbough, M.D. was elected to the board of the Brookings United Fund.

John J. Stransky, M.D., president of the South Dakota State Medical Association made his official visitation to the Black Hills District and discussed services rendered by the State Medical Association office and problems of concern to South Dakota physicians. **Robert H. Hayes, M.D.,** Vermillion, also attended and spoke on the Regional Medical Program and Comprehensive Health Planning.

* * *

Hubert H. Theissen, M.D. and **Richard A. Kovarik, M.D.** announce the formation of "The Women's Clinic" with offices at 1010 9th Street, Rapid City, South Dakota. They anticipate the future association of **Captain Raymond G. Burnett** with them in the practice of obstetrics and gynecology at the conclusion of his military service some time this July.

Loyd R. Wagner, M.D., T. R. Anderson, M.D., John F. Barlow, M.D. and **Karl H. Wegner, M.D.** served on an advisory committee during a conference in Sioux Falls for the Directors of the Schools of Medical Technology of four leading Midwestern hospitals and officials of Augustana College.

* * *

Doctors E. H. Heinrichs, Watertown; **Charles W. Ihle, Jr.,** Sioux Falls; and **W. F. Stanage,** Yankton, attended an orientation seminar concerning Head Start, in Kansas City, January 25-26. They, along with **Doctors H. W. Farrell** of Sioux Falls and **Nathaniel Whitney** of Rapid City, are Head Start consultants for the state of South Dakota.

* * *

James Ryan, M.D. spoke at a meeting of the Mobridge Mothers' Club on Childbirth and Prenatal Care.

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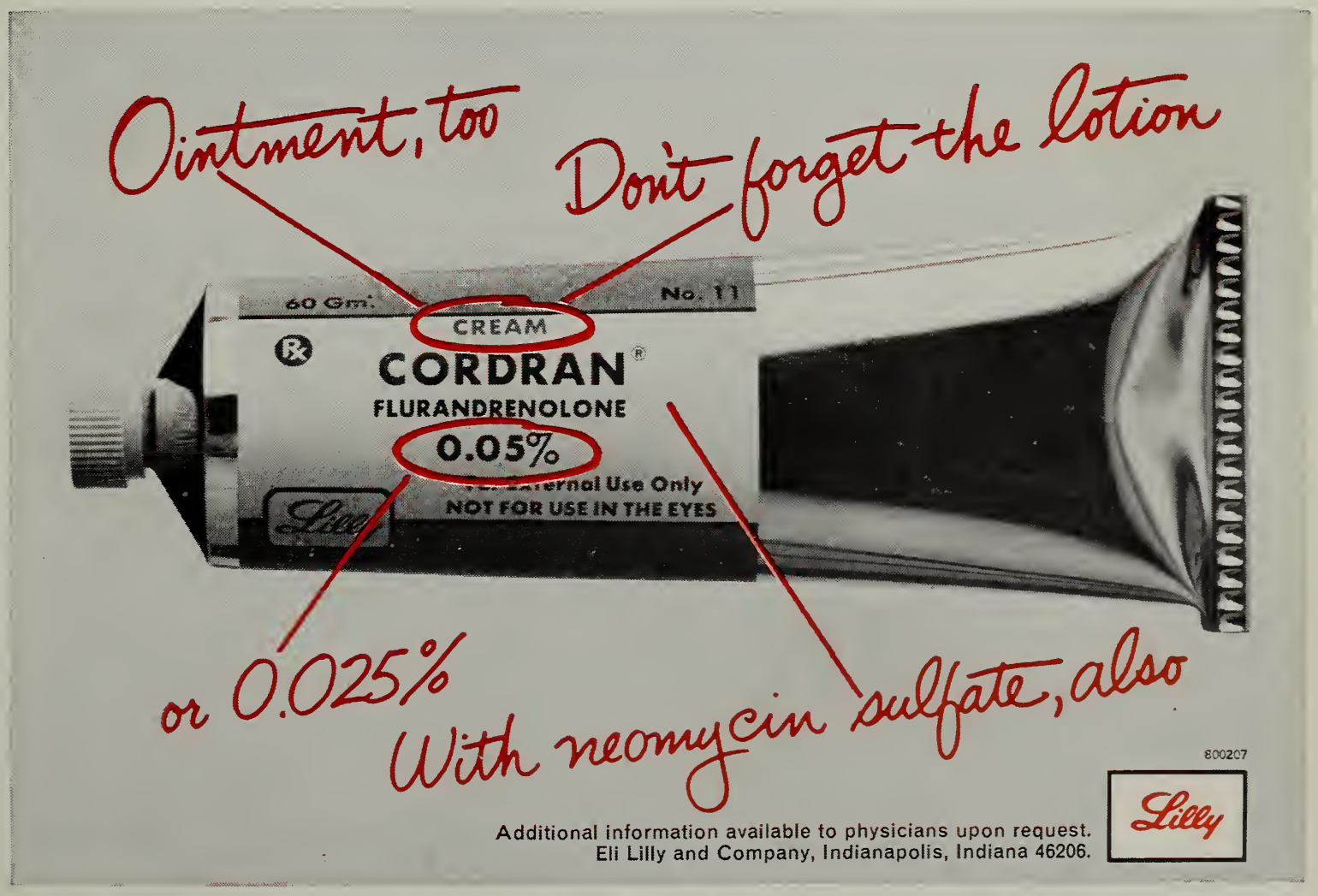

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JOURNAL OF MEDICINE

**JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
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SOUTH DAKOTA PRENATAL CARE STUDY
VII. Mothers' Complications: General Statistics

Brooks Ranney, M.D.*

Introduction:

All mothers who answered the South Dakota Prenatal Care Study were asked the question, "Did you have any special problem or complication during this pregnancy?" Since the Study forms were completed after respective babies were born, it is likely that some problems or complications occurring early during pregnancy may have been forgotten. Probably, also, a few mothers did not know, or fully comprehend, the problems and complications of their recent pregnancies. These factors would tend to decrease accuracy and completeness of answers to this question.

Nevertheless, these Study forms were completed by respective mothers soon after delivery while they were still in the hospitals; the mothers were guided and assisted by obstetric nurses who had knowledge of delivery complications and access to patients' prenatal records.[1] These factors would tend to increase accuracy and completeness of answers concerning complications.

* Chairman, Department of Obstetrics and Gynecology, University of South Dakota School of Medicine, and The Yankton Clinic, Yankton, South Dakota. (Note: This is a portion of a study which was accomplished in cooperation with the South Dakota Society of Obstetricians and Gynecologists, the Obstetric Departments of South Dakota hospitals, the University of South Dakota School of Medicine, and The Yankton Clinic, and which benefited from the invaluable assistance of Dr. Neil Palmer, formerly from the Computer Center at the U.S.D., now Chairman of the Department of Sociology at the University of Toledo.)

General Statistics:

About one-fourth of the 10,606 mothers who responded to this Study stated that they had some problems or complications during this pregnancy. (Table No. 1).

Table No. 1

Mothers who had "problems and complications" during pregnancy	2,585
Mothers who did not have "problems or complications" during pregnancy	7,779
Mothers who did not answer question	242
Total	10,606

About one-fourth of the mothers who listed complications, itemized two problems; one-thirtieth named three problems; and a few mothers claimed four problems or complications during their respective pregnancies. (Table No. 2).

Table No. 2
Number of Problems and Complications During Pregnancy, per Mother

Mothers claiming **one** problem or complication during pregnancy	1,874
Mothers claiming **two** problems or complications during pregnancy	619
Mothers claiming **three** problems or complications during pregnancy	78
Mothers claiming **four** problems or complications during pregnancy	14
Total	2,585

It is interesting that about 15% of the 10,606 mothers who completed the South Dakota Prenatal Care Study had been placed in a hospital for observation or treatment of a problem or

complication during this pregnancy, but before onset of labor. (Table No. 3). One can assume that the remaining 10% (Table No. 1) of pregnant mothers, who had problems, could be treated effectively in the doctors' offices, and at home.

Table No. 3
Mothers in Hospital to Treat Complications During Pregnancy, Before Labor

Mothers in hospital during pregnancy, before labor	1,603
Mothers not in hospital during pregnancy, before labor	8,820
No answer to this question	183
Total	10,606

Obstetric Complications Noted During Pregnancy:

Pregnancy hormones produce many physiologic and structural modifications in women. Symptoms from these changes vary from none to severe. When function and structure are sufficiently modified from normal range, they must be considered no longer physiologic, but pathologic (i.e. nausea, with occasional vomiting, may be considered a normal, hormone-related symptom of the first trimester of pregnancy (usually self-abating); however, repeated and persistent vomiting, with associated dehydration, starvation, and electrolyte imbalance, can rapidly produce serious pathologic changes in the mother, which often require active treatment in the hospital.)

1. "Discomforts" of Pregnancy:

Table No. 4 shows that, among the hormone-related changes in the body during pregnancy, stretching of connective tissues, nausea and vomiting, and varicose veins are apparently the most aggravating to mothers. However, the latter rarely require hospital care of the patients. (Table Nos. 11 and 12).

Table No. 4
"Discomforts of Pregnancy"

Classification	No. of mothers complaining of "Discomforts"	No. of mothers treated in hospital before labor
Faintness, weakness, tiredness, etc.	60	17
Nausea	151	4
Vomiting	79	44
Heartburn	35	0
Constipation	27	2
Stretching of fascias, ligaments, etc.	180	22
Hemorrhoids	43	2
Varicose veins	138	3

2. Premature Labor, False Labor, Inductions:

In this report (based on maternal responses) it was impossible to sift all threatened premature labors from the false labors at term. About a third of those mothers claiming premature labors were in the hospital, before labor started, for sundry reasons. (Table No. 5).

Only 0.7% of the 10,606 mothers in this study reported that their doctors attempted induction of labor — a low induction rate. (Table No. 5). However, 45.33% of these attempted inductions **failed** — a high failure rate, indicating that the cervices of these 34 patients were not yet sufficiently effaced and dilated to respond to attempts at induction of labor. (Probably there were other inductions of labor which did not impress the mothers sufficiently for them to make a report on the study forms. However, it seems likely that most mothers, on whom induction failed, remembered and reported it.)

3.23% of the mothers in this study reported having a false labor, sometime late in the pregnancy, before true labor started (Table No. 5).

Table No. 5
Premature Labor; False Labor; Inductions

Classification	No. of mothers reporting	No. of mothers treated in hospital
Premature labor	37	10
False labor	343	343
Labor induced	41	41
Labor induction failed	34	34

Long, firm cervices and unready uteri are unresponsive to labor induction attempts. Moreover, attempts to induce labor in such patients can be among the most dangerous procedures in obstetrics, even though the mother's pelvis is thoroughly adequate. Likewise, it is important to differentiate carefully between false labor and true labor, basing one's evaluation upon palpable progress in cervical dilatation and effacement, before considering stimulation of labor in the presence of uterine inertia.

3. Toxemias of Pregnancy:

Classifying toxemias on the basis of information received from mothers is obviously fraught with many errors of omission. 7.3% of the mothers indicated that they had some problem with toxemia during pregnancy — a few, severe. (Probably another seven or eight percent had at least mild manifestations of toxemia, observable by their obstetricians during their prenatal care.) 0.86% of the 10,606 respondents were in the hospital during pregnancy, before labor, for treatment of their toxemias. (Table No. 6).

Table No. 6
Toxemias of Pregnancy

Classification	No. of mothers reporting toxemia	No. of mothers treated in hospital before labor
Pre-eclampsia, mild	452	5
Pre-eclampsia, moderate	181	32
Pre-eclampsia, severe	56	37
Eclampsia	3	3
Renal disease, plus	4	3
Hypertensive disease, plus	77	12
Totals	773	92

4. Hemorrhage:

Most women remember when they bleed, particularly abnormally. However, only 2.4% of these mothers remembered first trimester bleeding (classified as "threatened abortion"). (Table No. 7). Probably the true incidence of first trimester spotting, followed by term pregnancy, is at least triple that percent.

The 1.5% of late pregnancy hemorrhages, being fresh in the minds of these mothers, must be reasonably accurate. On the basis of information provided on the study forms, it was not possible to classify 94 of these late bleeders. (Table No. 7).

Table No. 7
Hemorrhages

Classification	No. of mothers reporting bleeding	No. of mothers treated in hospital before labor
Threatened abortion	249	75
Placenta previa	33	21
Premature separation placenta	17	8
Other antepartum bleeding	6	5
Postpartum hemorrhage	4	4
Other—unclassified	94	46
	403	159

5. Miscellaneous

The small numbers of these complications (Table No. 8) reported by respondents indicate that mothers have no clear idea concerning some of the more esoteric complications which can and do occur in obstetric patients.

Table No. 8
Miscellaneous Complications

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Abnormal presentations	34	4
Cephalopelvic disproportion	4	1
Uterine inertia	1	1
Prolonged labor	1	0
Incompetent cervix	14	5
Other	5	1

6. Complications of Fetus, Placenta, Cord, Membranes:

Since premature spontaneous rupture of the fetal membranes is often followed by premature labor and delivery, and is occasionally followed by amnionitis or puerperal infection, its importance should not be under-estimated (Table No. 9).

A few mothers had fetuses dead in utero, but did not report it as a complication of pregnancy.[4]

The reported incidence of significant hemolytic disease, (0.4%) is probably quite accurate. Few mothers would neglect to report this complication. (Table No. 9).

Table No. 9
Complications involving Fetus, Placenta, Cord and Membranes

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Premature spontaneous rupture of membranes	71	55
Hydramnios	4	0
Prolapsed cord	1	0
Fetus dead in utero	12	2
Hemolytic disease	41	5

Gynecologic Complications Noted During Pregnancy:

A relatively large number of pregnant mothers complained of symptomatic vaginitis. Most, but not all of these are due to monilia. (Table No. 10).

Table No. 10
Gynecologic Complications During Pregnancy

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Vaginitis	110	8
Congenital anomalies	2	0
Ovarian cysts	7	4
Fibromyomata	2	1
Carcinoma of Cervix	2	2
Cervical biopsy	2	2
Excision cervical polyps	1	0

Ovarian cysts, occurring during the first two and one half months of pregnancy usually originate from corpora lutea, and will resolve. If a large cyst does not resolve by the fourth month, it is probably pathologic, and excision should be considered.

The cervical biopsies, noted in Table No. 10, probably were performed, carefully, to diagnose the extent of cervical cancer.[2]

Fibromyomata rarely cause problems during the second and third trimesters, in a woman who has achieved and maintained pregnancy

during the first trimester, unless they are located so as to obstruct the birth canal of the pelvis.

Surgical Complications Noted During Pregnancy:

Appendicitis becomes more dangerous as pregnancy progresses near term, because physical findings are modified by the enlarging uterus and softening connective tissue, and because there are much broader peritoneal surfaces to absorb bacterial endotoxins.

The placental hormones markedly stimulate the rate of growth of breast cancer.

Wound healing during pregnancy is often associated with keloid formation, probably because of placental hormones. (Table No. 11).

Table No. 11
Surgical Complications During Pregnancy

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Appendicitis	10	10
Thrombosis and/or embolism	4	4
Breast tumor	1	1
Lacerations and abrasions	9	9
Fractures	4	4
Other operative procedures	11	7

Medical Complications Noted During Pregnancy:

Pregnancy makes many changes in the female, aggravating many medical conditions, initiating some medical complications, and occasionally ameliorating some others. In general, the pregnant woman is more susceptible to medical complications than her non-pregnant sister.

1. Blood and Cardiovascular System:

Many women of menstrual age have a chronic blood-loss anemia. Particularly during the third trimester of pregnancy, the fetuses demand much more iron from mothers than they can absorb, so they must draw on already depleted reserves. Therefore, iron deficiency anemia is probably the most common medical complication of pregnancy — the one most amenable to simple therapy, chiefly with oral iron. So-called primary anemias, aggravated by pregnancy, are quite rare, but more difficult to treat.

Though only 161 of these 10,606 mothers listed anemia as a complication, a much larger number probably were also somewhat anemic. However, only five required therapy in the hospital prior to labor (Table No. 12) .

Medical treatment (probably for superficial venous thrombosis) (Table No. 12) occurred more than four times as often as surgical treatment (probably for deep, ascending venous thrombosis) (Table No. 11).

Heart disease was a rare cause for hospitalization of these pregnant mothers. (Table No. 12). However, severe heart disease is a dreaded complication of pregnancy; adequate bed rest is of major therapeutic importance.

Table No. 12
Complications of the Blood, and Cardiovascular System

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Anemia	161	5
Leukemia	1	1
Other blood dyscrasias	1	1
Phlebothrombosis	18	7
Congenital heart disease	5	2
Rheumatic heart disease	9	2

2. Respiratory System:

Infections of the respiratory tract (Table No. 13) constituted the second most common group of medical complications among these pregnant mothers (see also, Table No. 15). Reasonably early, active treatment of these infections in pregnant mothers will lower the serious complication rate, and probably will improve fetal health.

Table No. 13
Complications of the Respiratory System

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Sinusitis, tonsillitis, etc.	49	33
Bronchitis	11	9
Pneumonia	13	13
Asthma	1	1

3. Gastrointestinal System:

Obviously, many mothers had unreported gastroenteritis during pregnancy, but did not mention it unless hospital treatment was required (Table No. 14).

The record shows (Table Nos. 11 and 14) that ulcers and cholelithiasis were treated medically during pregnancy.

Hepatitis, of moderate to severe degree, can be very dangerous during pregnancy, both for the mother, and for the fetus.

Ulcerative colitis usually is much worse during the first trimester of pregnancy, probably because of the effects of placental hormones. If maternal survival is in doubt, despite careful medical management, interruption of the pregnancy may rarely be required. If mother and

fetus survive the first four months, there tends to be a gradual improvement during the remainder of the pregnancy.

Table No. 14
Complications of the Gastrointestinal System

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Gastroenteritis	6	6
Ulcers	6	6
Cholelithiasis	27	13
Hepatitis	4	4
Colitis	4	4

4. Urinary System:

Probably because placental hormones cause decreased motility of ureters and incomplete emptying of urinary bladders, urinary infections are most common during pregnancy. (Table No. 15). It is important for mother and fetus that these be recognized and actively treated.

Acute nephritis (Table No. 15) can be caused by retrograde infections, or can follow (by 3 or 4 weeks) acute, streptococcal, respiratory infections. (Table No. 13). Active treatment of either earlier complication should prevent this dangerous, subsequent, kidney complication during pregnancy. With aggressive management, and rest, some pregnant mothers with acute nephritis will heal without residual damage; others will develop chronic kidney damage and superimposed toxemia of severe proportions.

Calculi of the urinary system were treated conservatively during pregnancy. (Table Nos. 11 and 15).

Table No. 15
Complications of the Urinary System

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Cystitis and pyelocystitis	203	80
Acute nephritis	14	7
Renal or ureteral stone	5	4

5. Miscellaneous Medical Complications:

Table No. 16
Miscellaneous Medical Complications

Classification	No. of mothers reporting complications	No. of mothers treated in hospital before labor
Allergies	20	5
Skin lesions	12	3
Muscular dystrophy	3	0
Arthritis	1	1
Other medical complications	69	57

The term, "Other medical complications," in Table No. 16, includes infectious diseases; thyroid and adrenal dysfunction; and other gastrointestinal, urinary, neuro-muscular, etc., disorders which complicated the pregnancies enough for respective mothers to recall, and itemize them, but which could not be conveniently classified, above.

6. Diabetes:

Although only **thirty** of these 10,606 mothers claimed to be **diabetics, twelve** of them required management of their diabetes in the **hospital** during pregnancy.

Pregnancy produces unusual changes in metabolism. Therefore, latent diabetics often first discover their tendency during pregnancy, and known diabetics often experience abrupt changes in insulin requirement during pregnancy. Meticulous, week-to-week, or day-to-day, management of these patients is essential. Inadequate management increases the incidence of acidosis, shock, placental pathology, fetal death in utero, tremendous (yet premature) babies, etc.

If a baby's birth weight is over 10 pounds, the mother should be carefully checked (family history, blood sugar after eating, glucose tolerance curves, etc.) for a latent tendency to diabetes. This would apply to about 1.5% of the mothers in this study.[3]

Summary:

The 10,606 mothers who completed the South Dakota Prenatal Care Study forms indicated that they had complications during pregnancy, as noted in Table No. 17. In some instances a single patient may have had two or more complications. Patients who required hospitalization for treatment of complications are also noted in Table No. 17.

Table No. 17
Complications During Pregnancy

Groups	No. of Respective Groups of complications listed by mothers	No. of mothers treated in hospital before labor
Obstetric complications	2522	1271
Gynecologic complications	126	17
Surgical complications	39	39
Medical complications	673	276

Note:
Subsequent reports in this series will include significant findings from cross tabulations between Column A and Column B, below:

Column A	Column B
Maternal weight gain	Parity
Length of labor	Prior abortions
Kind of delivery	Prenatal care
Complications of pregnancy	Postpartum care
General	Age of mother
Toxemia	Schooling of mother
Hemorrhage	Place of residence of mother
False labor	Distance mother lives from doctor
Premature spontaneous rupture of membranes	Race of mother
Hemolytic disease	Hospital of delivery
Diabetes	Month of delivery

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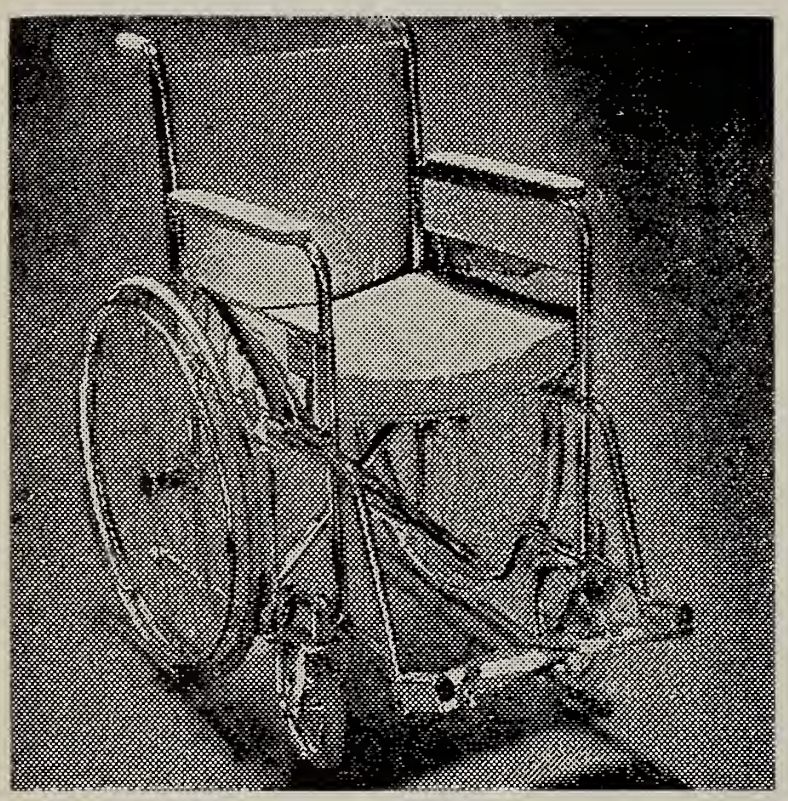

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Scientific PAPER

COMMINUTED FEMORAL SHAFT FRACTURES

Robert E. Van Demark, M.D.
Sioux Falls, South Dakota

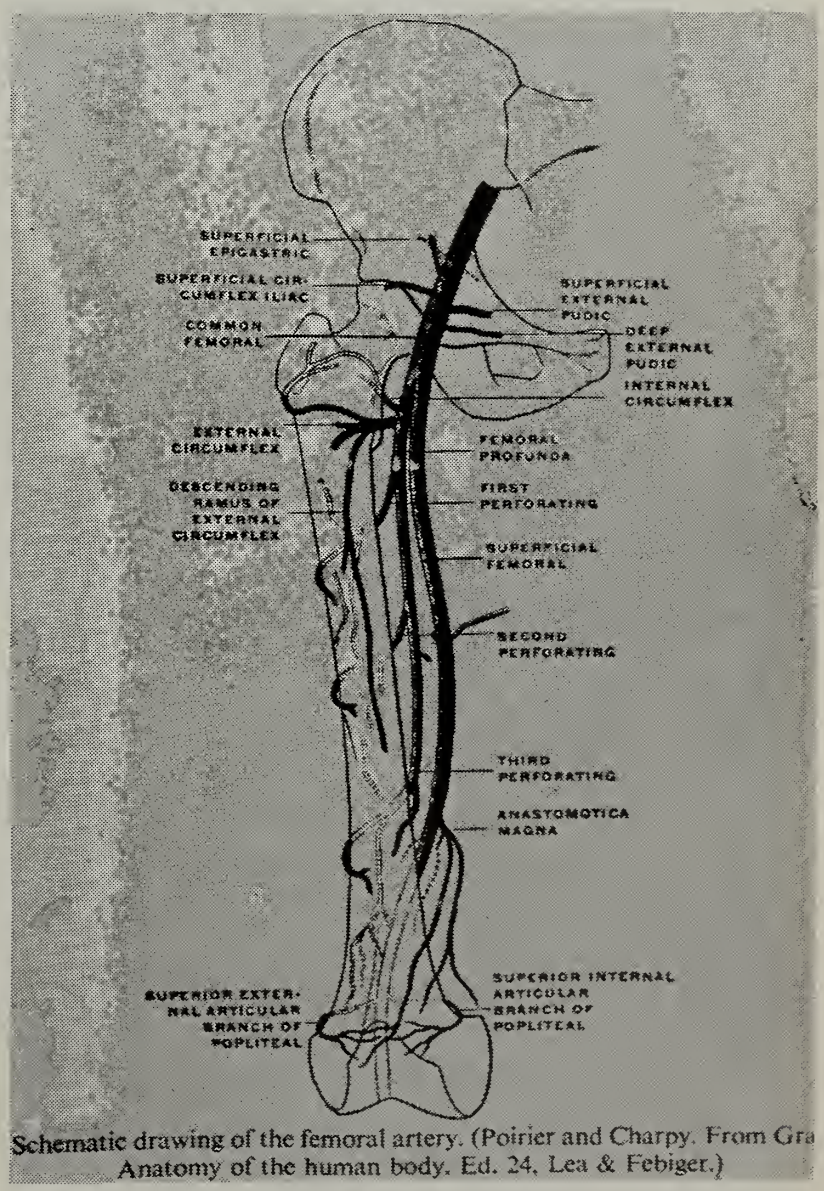
Fractures of the femoral shaft have always been a major problem in fracture treatment.[2] In recent years, a rising incidence of comminution has occurred in these fractures as a result of the increased violence of automobile and farm machinery accidents. With severe comminution, bone contact is absent, later bone bridging inadequate and disability prolonged and permanent. Usual methods of treatment including skeletal traction, blind nailing[1] and open reduction and plating are not applicable to these complicated fractures.

The treatment of this increasing problem has been previously presented[3]; the present presentation relates to our further experience with it in subsequent years.

In most instances the comminuted fracture is associated with other injuries, often with considerable decrease in blood volume and shock. These other conditions often demand immediate treatment. Closed comminuted femoral shaft fractures require primarily immobilization with skeletal traction inserted preferably in the upper tibia; open fractures require in addition prompt cleansing and debridement. After a few days, when the general condition of the patient has become stabilized and local conditions are favorable, further fracture treatment is warranted. Operation should be undertaken only under optimum conditions; the blood volume should be restored to normal and the skin clean.[1] — p. 441.

The pathology of these fractures is extremely variable, with multiple transverse as well as longitudinal fractures. Frequently there are

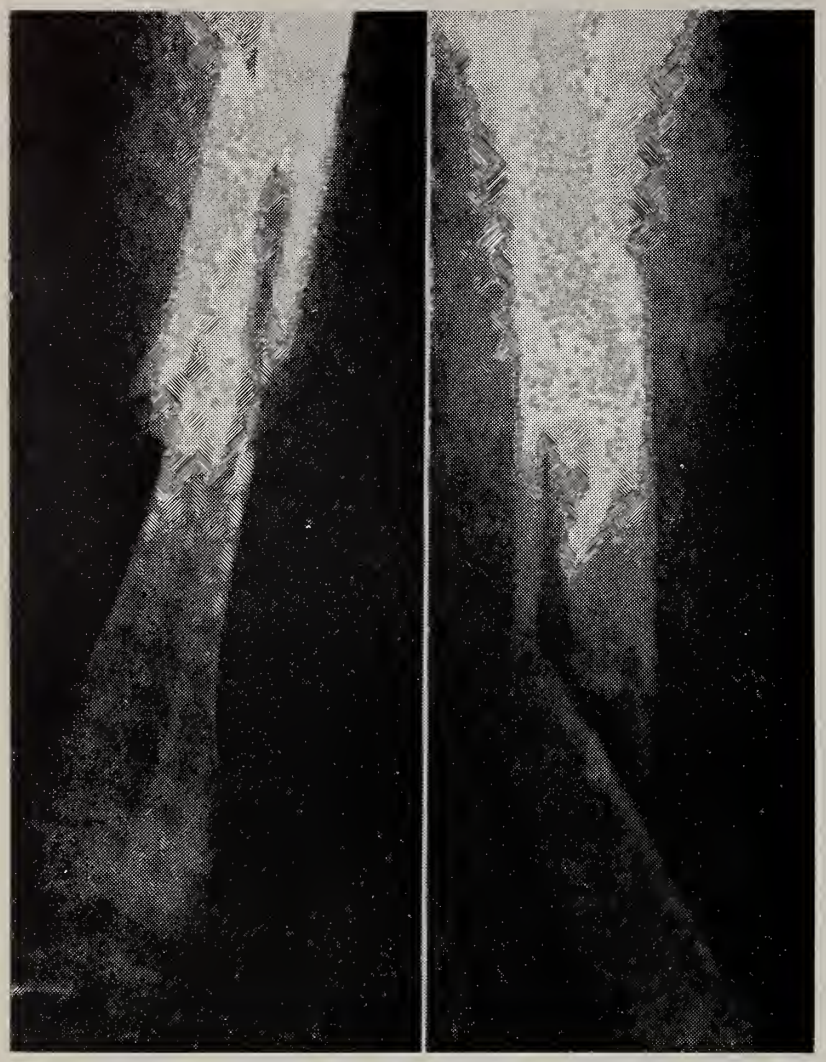
Figure 1.



Schematic drawing of the femoral artery. (Poirier and Charpy. From Gra Anatomy of the human body. Ed. 24, Lea & Febiger.)

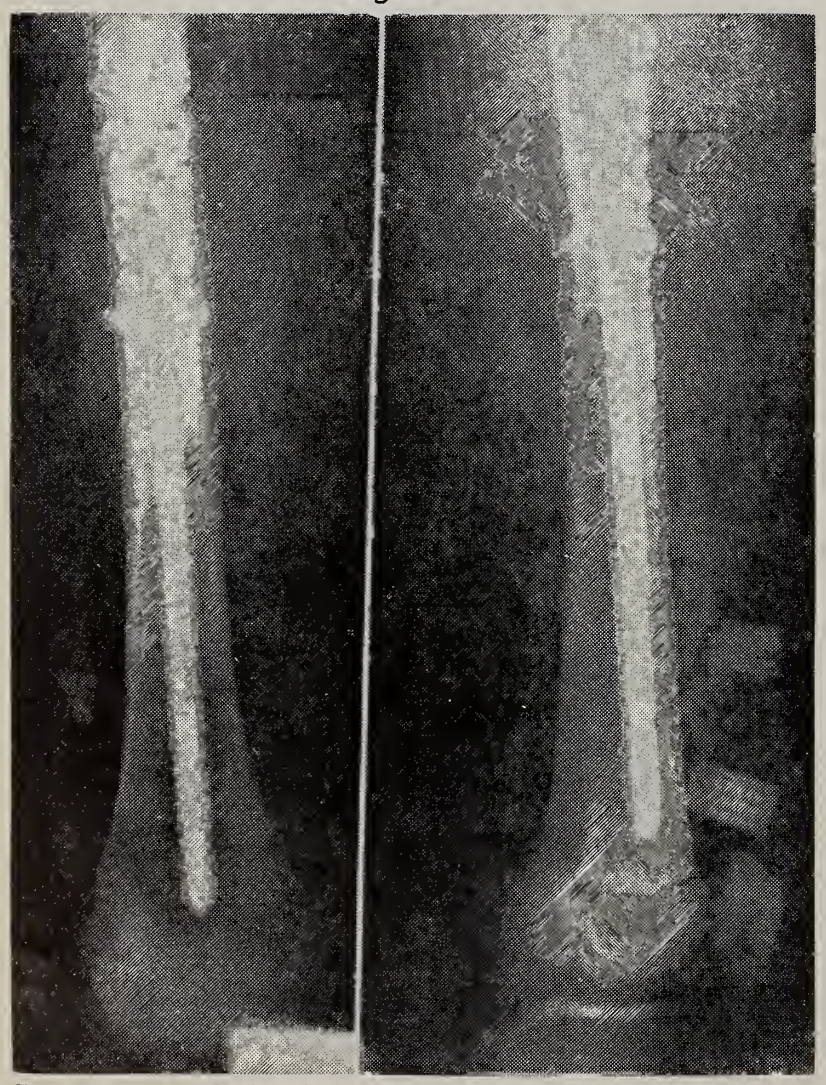
longitudinal shaft fractures not visible on X-ray (Figs. 7, 8) in addition to the obviously comminuted fragments. Often the periosteal blood supply has been lost in addition to the disruption of the medullary circulation; these fractures are

Figure 2.



Multiple comminuted intermediate fragments with loss of bony contact particularly distally. (Van Demark, courtesy of Clinical Orthopaedics[3]).

Figure 3.



Same case following intramedullary nailing and temporary fixation with Parham bands. (Courtesy of Clinical Orthopaedics[3]).

Figure 4.

Appearance following removal of fixation (Courtesy of Clinical Orthopaedics[3]). Completely normal appearance was ultimately restored.

predisposed to delayed bony union on the basis of decreased vascularity.

In the treatment, intramedullary nails and proper skeletal fixation will protect these fragments during this period of healing. The exact treatment must be individualized in each case. The intramedullary pin or rod should be partially inserted and the fragments replaced about this basic structure. Every effort must be taken to maintain intact the muscular attachments (and blood supply Fig. 1) to the displaced intermediate fragments. Usually an anterolateral approach will permit adequate visualization and mobilization if care is taken in exposing the fragments with their vasti muscle attachments.

Segmental fractures respond well to intramedullary nailing[1] - p. 383 if adequate protection is given to the blood supply of the intermediate fragments.

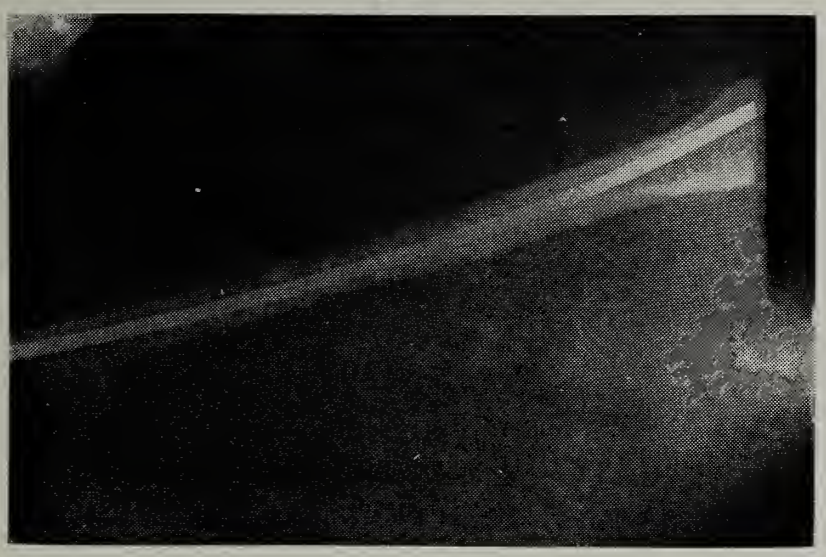
The temporary use of Parham bands in assembling longitudinal fragments and in protecting the cracked shaft from separating into

fragments has been previously discussed in detail.[3] These bands must all be removed; in some cases they can be replaced by screws placed at a well chosen site adjacent to an intramedullary nail.

Figure 5.

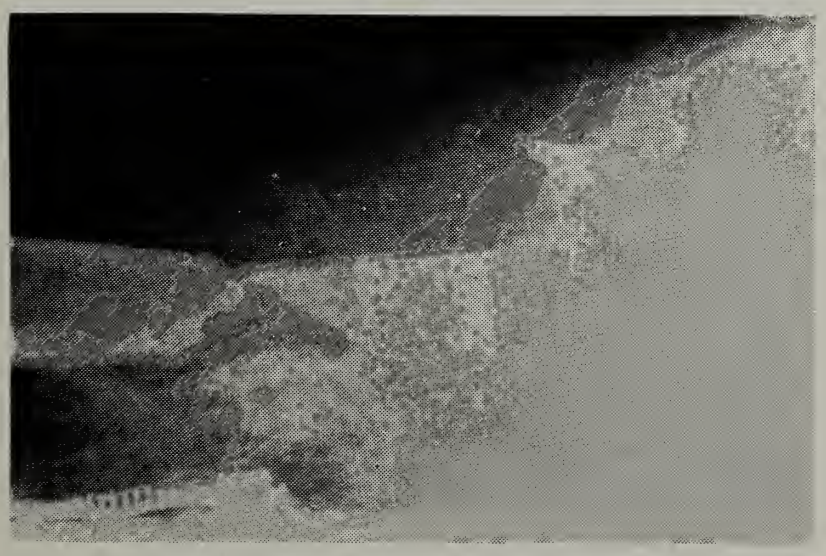
Segmental fracture of femur with loss of bony contact. Opposite femur also fractured.

Figure 6.



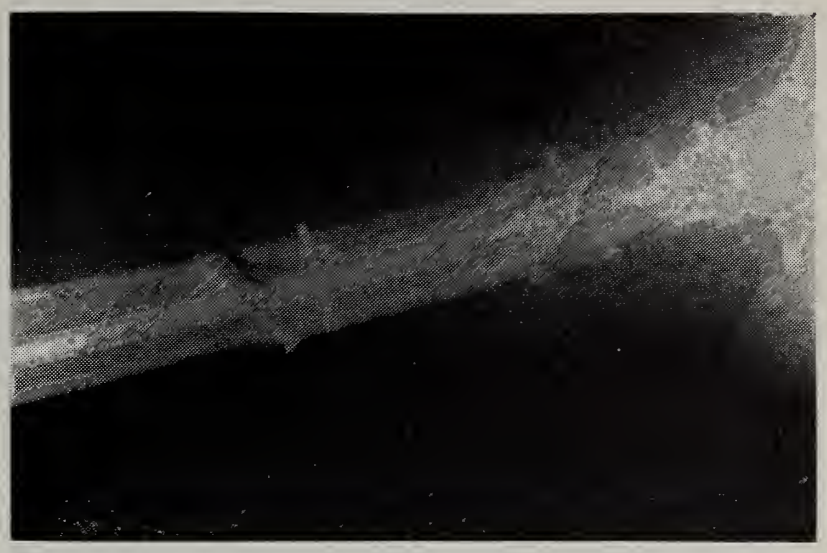
Postoperative result seen in same case. The muscle attachments with the periosteal blood supply were easily maintained on the intermediate fragment.

Figure 7.



Comminuted fracture with longitudinal intermediate fragmentation requiring care to maintain blood supply. Multiple longitudinal fissures in the proximal fragment (on the right) are not evident on the X-ray.

Figure 8.



Postoperative result. The Parham band prevents bursting fractures during the intramedullary nailing as well as temporary fixation in the early postoperative period prior to its removal.

Cancellous bone graft is desirable in cases where callus formation is delayed and can often be inserted at the same time the temporary use of the Parham band is concluded.

The problem of diminished blood supply will continue to make the treatment of these fractures a challenge. The use of the intramedullary nail or rod and supplemental devices and a careful surgical technique will aid in the restoration of the normal skeletal architecture.

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TEAMWORK NEEDED

Various private segments of society must join with government in getting public work done, according to John W. Gardner, former secretary of the Department of Health, Education, and Welfare. Among the steps to be taken toward maximum utilization of the nation's power and initiative, Gardner recently cited: (1) Find more effective ways of relating the federal government to state and local governments; (2) Find new ways to utilize private enterprise to achieve social goals; (3) Utilize increasingly a variety of nonprofit agencies in getting public work done, and (4) Preserve the integrity of the nonfederal partner.

MANNITOL INDUCED RENAL ALTERATIONS IN RABBITS*

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I. Introduction - Purpose

Mannitol is the reduced form or alcohol of the six carbon sugar, mannose. Physical and physiological properties of mannitol make it an ideal osmotic diuretic. Research physiologists have used it for many years in renal studies employing laboratory animals. Clinical use before 1959 was for measuring glomerular filtration rate. Currently, mannitol is employed in diverse clinical situations and is considered useful and often life-saving by practicing physicians.

Mannitol is used clinically as an osmotic diuretic and as both a therapeutic and prophylactic agent in treatment or prevention of acute renal failure in post-operative and post-traumatic periods.[1, 2] Specific renal and systemic actions of mannitol alter intrarenal hemodynamics. They produce a protective effect often accredited with decreasing the incidence of acute tubular necrosis following vascular surgery in general and particularly abdominal aortic aneurysmectomy.[3, 4]

More recently the drug is being employed, often in preference to urea, in ophthalmological and neurosurgical procedures.[5, 6] Its ocular hypotensive effects are useful prior to ocular surgery and in such ophthalmic conditions as acute angle-closure glaucoma.[7] Miyazaki stated that a water solution of 30% fructose and 15% mannitol, called "Fructon-M," fulfills many requirements for an ideal osmotherapeutic agent reducing increased intracranial pressure.[8]

Complications and side effects of mannitol therapy are infrequent and usually mild. However, renal biopsy or autopsy tissue from patients or laboratory animals who have received mannitol shortly before biopsy or death often exhibit what is described as "osmotic nephrosis."[9, 10] Authorities generally agree that this condition is transitory and disappears spontaneously following cessation of mannitol therapy, but there is disagreement as to how long the lesion remains and dosage level required to elicit the response.

There is little doubt a cause-effect relationship exists between mannitol therapy and "osmotic nephrosis." Unfortunately, histologic descriptions of this condition are almost always subjective. Further, most studies are limited in scope relative to sample size, mannitol dosage, and tissue analysis following varying post-infusion times. Usually vacuolization, involving both proximal and distal tubular cells, and variation in proximal convoluted tubule lumen size are observed.

Subjective analysis characteristics make data comparisons difficult. Quantitating subjective data, such as tubule vacuolization, is possible by transforming the subjectively graded responses

* Approved by the director of the South Dakota Agricultural Experiment Station as Journal Series No. 793.

into "ridits" (Relative to an Identified Distribution Transformation). Measurement of quantitative parameters, which could be evaluated in a conventional statistical manner, was considered more useful in elucidating the relationship between mannitol therapy and subsequent "osmotic nephrosis."

The purpose of this study was to make histologic comparisons of proximal renal tubules in mannitol-treated virgin doe rabbits. Microscopic inspection was employed to determine reversibility of the histological changes: altered tubule lumen size and distance of the nucleus from the basement membrane, in respect to different dosage levels and various post-infusion sacrifice times.

II. Experimental Method

Experimental animals utilized were New Zealand White virgin doe rabbits (1.3 - 3.5 Kg.). They were individually housed in wire mesh hutches and maintained on a commercial pelleted rabbit chow and mineral supplement. Feed and water were provided **ad libitum.** Clinical examinations demonstrated that each animal was alert, active and apparently disease-free throughout the study.

Animals were randomly allocated to 10 experimental groups containing seven does following a five day post-delivery observation period. Twenty-five percent aqueous mannitol solution was warmed to 38°C. and adjusted to pH 7 using 0.1N NaOH, then injected intracardially at 10 to 12 ml. per minute. Groups 1-5 were administered 2 gm. mannitol/Kg. body weight and groups 6-10 received 4 gm. mannitol/Kg. body weight. Each group was sacrificed at specific post-infusion times. Groups 1-5 were sacrificed after 6, 12, 24, 48 and 72 hours respectively and groups 6-10 were sacrificed after 12, 24, 48, 72 and 96 hours, respectively. Fifteen rabbits were maintained as controls.

Two 8 mm. square sections were removed from the left kidney of each animal immediately after sacrifice. Care was taken to ensure large cortical exposure and minimum tissue trauma.

Tissue segments were washed in physiological irrigating solution then fixed in FAA (formalin - 10 ml., glacial acetic acid - 2 ml., 70% ethyl alcohol - 90 ml.) a minimum of 48 hours, insuring complete fixation. Embedded mounts were cut 10 microns thick, positioned individually on slides, and stained with Harris Hematoxalin and Orange G counterstain. Five slides per animal were selected for microscopic examination.

Criteria utilized in proximal tubule selection were: tubule location not further than 100 microns from peripheral cortical exposure, and tubule cut perpendicular to its long axis to expose a true cross-section. Five tubules per slide were measured in microns for lumen diameter (TD) and distance of nucleus from basement membrane (ND). Fine grain color film was employed in microphotography using a Leitz Ortholux microscope and 35 mm. Orthomat microcamera.

Analyses of variance were utilized on all data, and Dunnett's **t** test was employed on control and experimental means for measurement of nucleus distance from basement membrane.

III. Results and Discussion

Data were obtained from 4,250 separate measurements. Summaries, citing minimum, maximum and mean measurements for TD and ND of control and experimental rabbits are listed in Table 1.

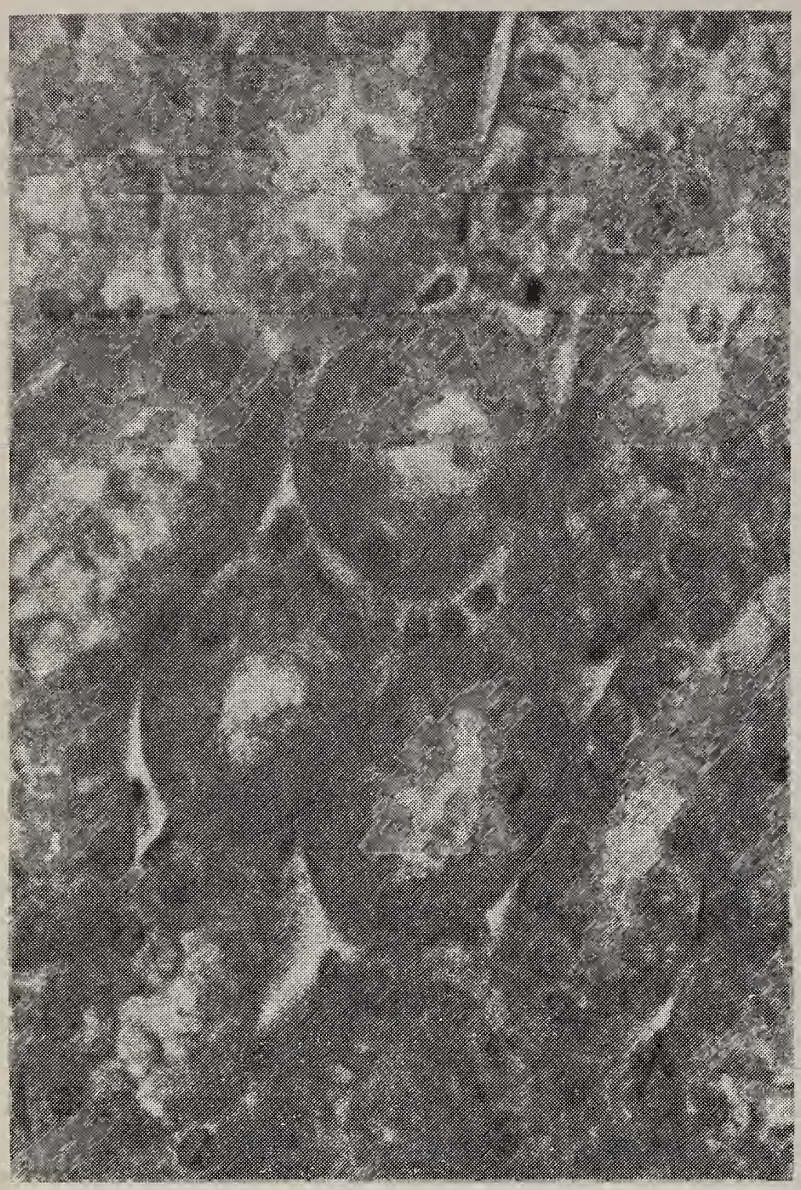
TABLE 1:

Minimum, maximum and mean proximal tubule measurements of tubule diameter and nucleus distance from basement membrane for control and experimental rabbits.

Group	Tubule Diameter (u)			Nucleus Distance from Basement Membrane (u)		
	Min.	Max.	Mean	Min.	Max.	Mean
Control	2.6	8.2	5.0	1.6	3.0	2.2
Mannitol 2 gm/Kg						
1	0.2	4.2	0.7	2.5	4.1	3.0
2	0.6	2.5	1.3	2.2	3.4	3.0
3	0.0	1.4	0.8	2.6	3.7	2.9
4	0.8	1.2	1.0	2.3	3.5	2.9
5	2.1	7.2	4.7	2.2	3.0	2.6
Mannitol 4 gm/Kg						
6	1.0	2.7	2.1	2.2	3.0	2.6
7	0.6	4.4	2.5	2.2	3.4	2.6
8	2.1	4.8	3.3	2.1	3.8	2.8
9	2.1	5.5	3.6	1.9	3.7	2.6
10	2.8	9.8	4.5	2.4	3.4	2.9

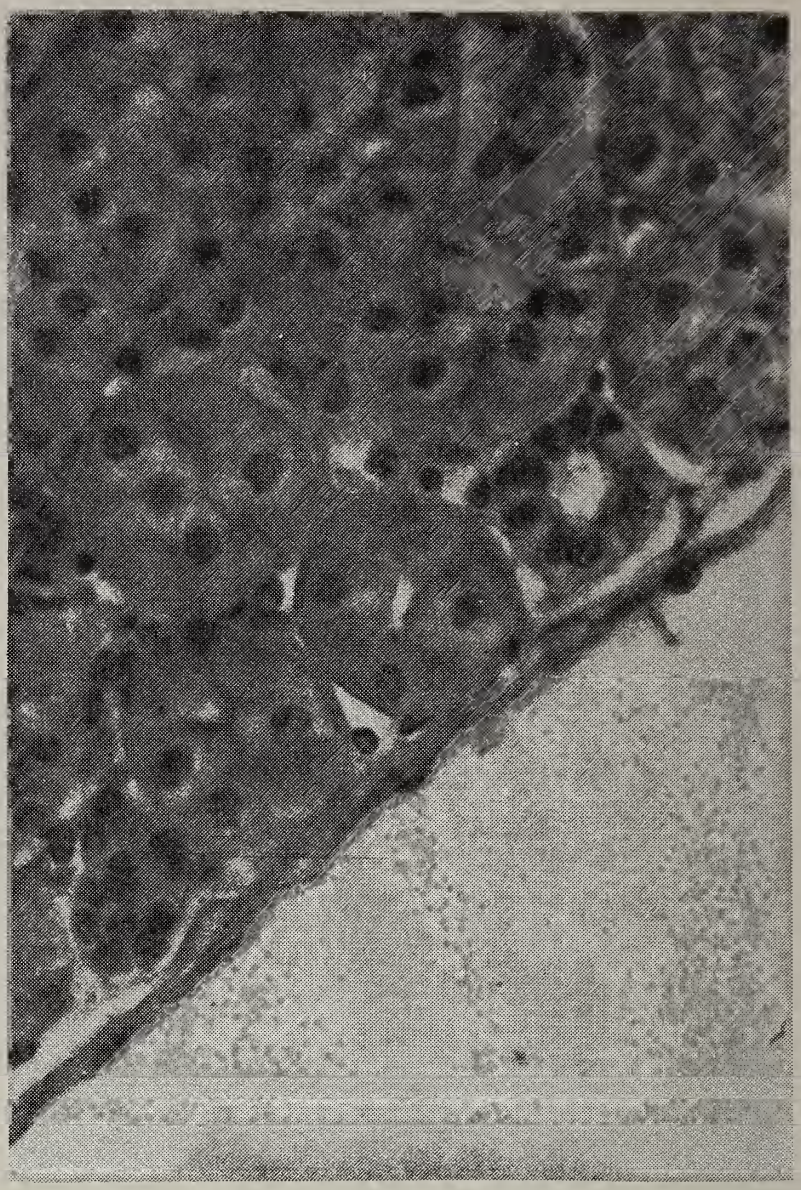
Histologic evaluation indicated a possible biological reversibility of TD's occurring with both 2 and 4 gm. mannitol/Kg. dosage levels. Comparing control animals (Fig. 1) TD means against the 2 gm. mannitol/Kg. dosage groups indicates reversibility of lumen size as post-sacrifice time increased (Fig. 2 and 3). A relatively small lumen (0.7 - 1.0 microns) persisted in groups 1, 2, 3 and 4, but in group 5 lumen size returned to approximately control size (4.7 microns). The minimum and maximum

Figure 1.



Subcapsular proximal tubule of control rabbit kidney: Stain H&OG, 400x.
Tubule diameter pronounced (5-6u) with nucleus distance (1-2u) from basement membrane.

Figure 2.



Subcapsular proximal tubule of experimental rabbit kidney: 2 gm. mannitol/Kg., sacrificed 6 hours post-infusion: Stain H&OG, 400x.
Tubule diameter reduced to 0-2u with nucleus distance (2-4u) from basement membrane.

TD measurements of both control and experimental groups compared reasonably well with their means.

Lowest mean TD measurement in groups administered 4 gm. mannitol/Kg. was 2.1 microns in the 12 hour group. Whereas, this mean was not exceeded until 96 hours post-infusion in 2 gm. groups. Four-gram groups demonstrated progressive reversibility of lumen size with consistent increases in lumen size for each succeeding time group (Fig. 4 and 5). Similar degrees of biological reversibility in ND were not as evident as in the TD groups (Table 1).

Highly significant ($P<.01$) analysis of variance was obtained between treatment and control animals for ND. Highly significant results ($P<.01$) obtained from TD were limited to slides within animals within treatments. Differences in TD between slides within treatments were presumably due to large fluctuations of tubule size within individual tissue sections. Statistical results are summarized in Tables 2 and 3.

Highly significant ($P<.01$) Dunnett's **t** test results were obtained from all ND groups within the 2 gm. mannitol/Kg. dosage level and from the 12, 48 and 96 hour groups within the 4 gm. mannitol/Kg. dosage level. The 4 gm./Kg. 24 hour group demonstrated significant results ($P<.05$), whereas, the 72 hour group was not significant. A summary of Dunnett's **t** test results is delineated in Table 4.

Previous investigators demonstrated that mannitol was not metabolized by renal tubules. However, an isolated investigation noted that 10% of an injected mannitol dose was not recovered and presumably metabolized.[11] Thus, there may be a cytological explanation for fluctuation of nucleus position within tubule cells. Possible intercellular biochemical and/or metabolic alterations may play a physiological role, but further research must be undertaken to elucidate and validate this theory.

IV. Summary

Mannitol effects, involving proximal renal tubules in virgin New Zealand White doe rab-

TABLE 2:
Analysis of variance showing tubule diameter involving control and experimental animals.

Source	d. f.	Mean Squares	Error Mean Squares	"F"
Treatment	10	0.1790	11.4883	NS
Animals/Treatments	71	0.1043	11.3666	NS
Slides/Animals/Treatments	322	11.4931	0.0008	14.062**
Error	1611	0.0008		

** P⟨.01.
NS Not significant at P⟨.05.

TABLE 3:
Analysis of variance showing nucleus distance from basement membrane involving control and experimental animals.

Source	d. f.	Mean Squares	Error Mean Squares	"F"
Treatment	10	1.0493	0.3724	2.817**
Animals/Treatments	71	0.3686	0.0725	5.078**
Slides/Animals/Treatments	322	0.0726	0.0640	1.134**
Error	1611	0.0640		

** P⟨.01.
NS Not significant at P⟨.05.

bits, were investigated. Animals weighing 1.3 to 3.5 Kg. were administered 25% mannitol solution intracardially, employing dosages of 2 and 4 gm./Kg. body weight. Does were sacrificed at specific post-infusion intervals and renal tissues were prepared for histologic analysis. Tubule diameter and nucleus distance from basement membrane were measured. Statistical evaluation included analyses of variance and Dunnett's t tests.

TABLE 4:
Dunnett's t test denoting nucleus distance from basement membrane and control means.

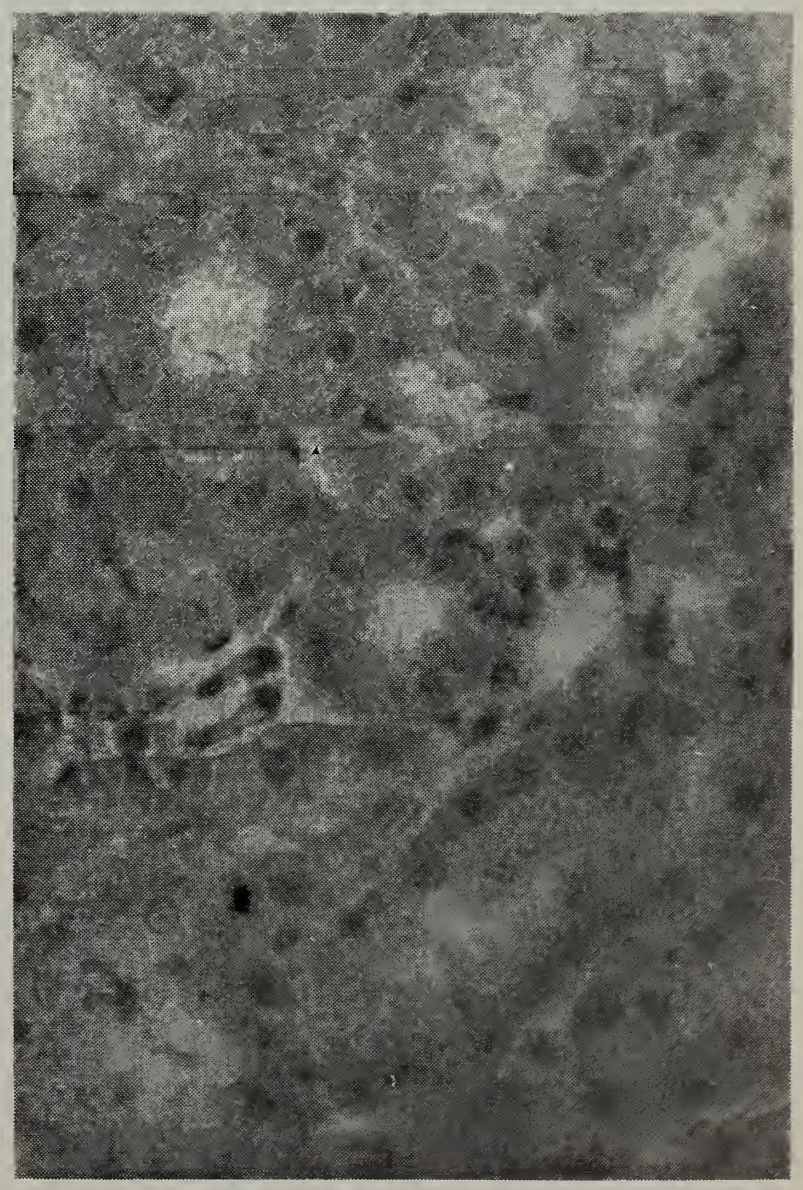
Post-infusion Sacrifice Times (hour)	Mannitol 2 gm/Kg	Mannitol 4 gm/Kg
6	1.9187**	———
12	1.8567**	1.7455**
24	1.8413**	1.7317*
48	1.7794**	1.7930**
72	1.7361**	1.7058 NS
96	———	1.8053**

** P⟨.01.
* P⟨.05.
NS Not significant.

Renal tissues from mannitol-treated animals appeared congested and vacuolization was noted in both proximal and distal tubules. Renal congestion, tubular vacuolization, and lumen size changes, were reversible and returned to normal.

Statistical data derived from these investigations concerning nucleus position within the proximal tubule cells after mannitol infusion definitely indicated atypical nucleus movement that was not reversible before 96 hours.

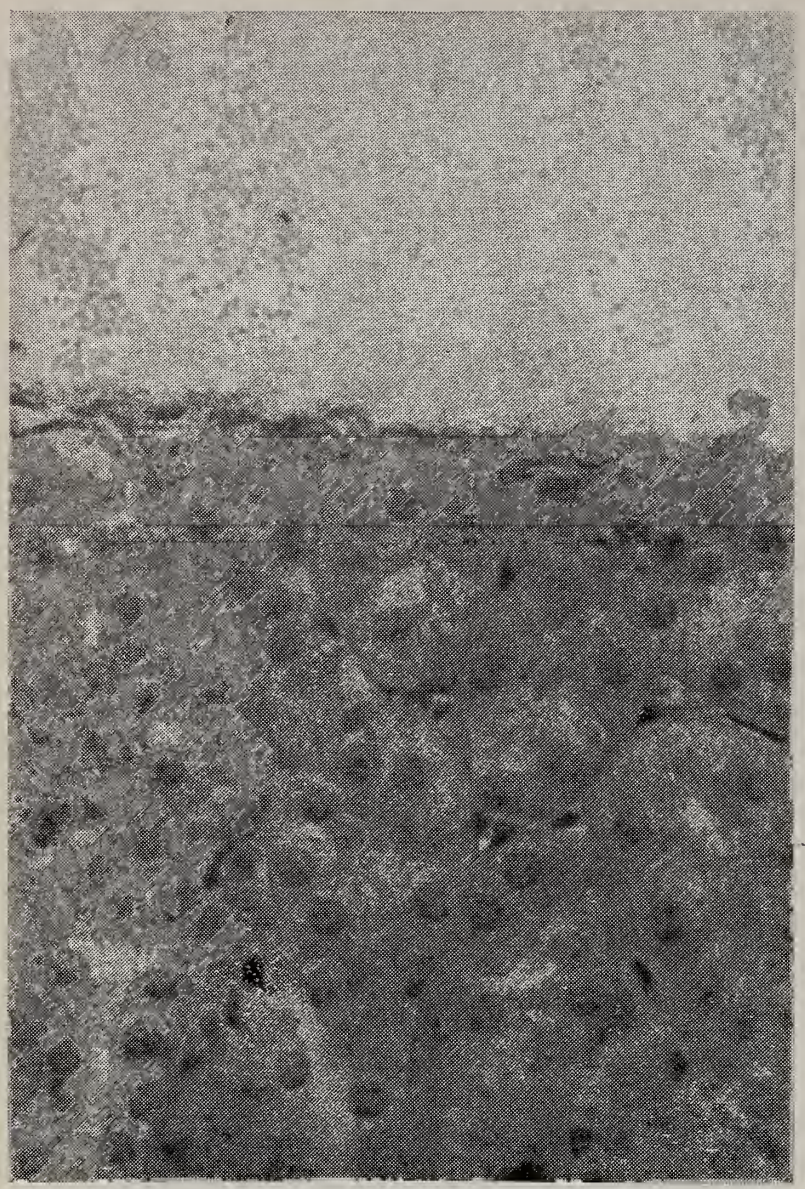
Figure 3.



Subcapsular proximal tubule of experimental rabbit kidney: 2 gm. mannitol/Kg., sacrificed 48 hours post-infusion: Stain H&OG, 400x.

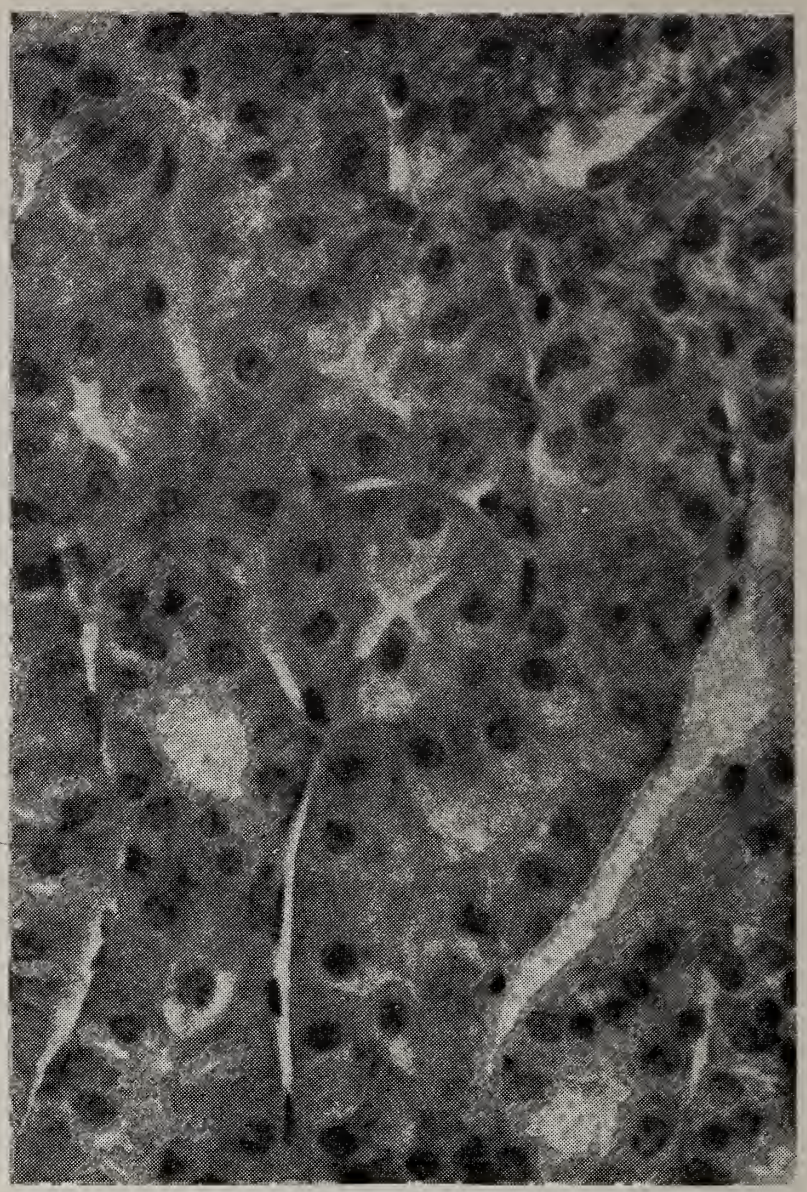
Tubule diameter pronounced (5-8u) with nucleus distance (1-2u) from basement membrane.

Figure 4.



Subcapsular proximal tubule of experimental rabbit kidney: 4 gm. mannitol/Kg., sacrificed 48 hours post-infusion: Stain H&OG, 400x.
Tubule diameter slight (0-1u) with nucleus distance (2-4u) from basement membrane.

Figure 5.



Subcapsular proximal tubule of experimental rabbit kidney: 4 gm. mannitol/Kg., sacrificed 72 hours post-infusion: Stain H&OG, 400x.
Tubule diameter distance (3u) with nucleus distance (2-3u) from basement membrane.

Tubular nuclei distance variations, following administration of mannitol in rabbits, may involve an intracellular biochemical and/or metabolic interrelationship stimulating cytological alterations. Further research is needed to elucidate and/or validate this assumption.

ACKNOWLEDGEMENTS

The authors would like to express their appreciation to Dr. John E. Baer, Director of Pharmacological Chemistry, Merck Institute for Therapeutic Research, West Point, Pennsylvania, for supplying the mannitol used in these investigations. We also thank Professor Nelle A. Hartwig and Dr. W. Lee Tucker, College of Agriculture and Biological Sciences, South Dakota State University, for their suggestions and help concerning histologic and statistical methodology, respectively. The help of Dr. R. Ohrt, Resident Pathologist at Sioux Valley hospital in Sioux Falls, South Dakota, in the initial evaluation of histological sections is gratefully acknowledged.

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ACUTE INTERMITTENT PORPHYRIA IN CHILDHOOD*

James E. Mays, Jr., M.D.**

A brief clinical summary of the diagnosis and treatment of acute intermittent porphyria in children. The differential diagnosis is discussed.

Porphyria is a poorly understood disorder of porphyrin metabolism. There is good evidence available to divide porphyria into two classes: 1) familial, and 2) acquired. Porphyrins are found in all cells of the body, but the bone marrow and liver cells have the highest concentrations. Porphyrins are necessary for the formation of respiratory enzymes such as hemoglobin, cytochrome, myoglobin, catalase, and peroxidase. The disease porphyria is associated with increased excretion of porphyrins and/or their precursors in the feces and urine, but the disease symptomatology is not completely correlated with the increased output of these metabolites.

Classification of porphyria is still quite confused because much of the classification system is based on symptomatology and not on the basic biochemical differences, which at this point in our knowledge, are quite vague in many areas. One of the simplest classifications of porphyria has been presented by Gable[5] (figure 1).

The major groups are (A) congenital erythropoietic porphyria, which is biochemically distinct from the other forms; (B) hepatic porphyria, the most confusing of the classifications; and (C) acquired porphyria due to exotoxins. A fourth group should be considered only to exclude them from the true disease, and this is porphyrinuria. Porphyrinuria is merely the presence of porphyrins in the urine, and is usually due to severe bleeding, anemias, lead poisoning, alcoholism, and hepatic dysfunctions. The hepatic porphyrias are ordinarily divided into two major groups: The Swedish type commonly called acute intermittent porphyria, which does not have photosensitivity as part of its symptoms, and the South African type of mixed porphyria, which does have photosensitivity as a predominant part of the clinical picture. In the acquired type of porphyria, the most notable example is the so-called Turkish type,[4] which is caused by ingestion of fungicides (hexachlorobenzene) used on cereal grains in Turkey. Photosensitivity is a prominent part of the symptomatology.

I. Porphyria erythropoietica (recessive)
II. Porphyria hepatica
  A. Hereditary acute intermittent (A.I.P.) (dominant)
    1. Manifest
    2. Latent
  B. Hereditary, mixed or "varigate" group (dominant)
    1. Cutaneous with little or no acute manifestations
    2. Acute intermittent without cutaneous symptoms
    3. Various combinations
    4. Latent
  C. Hereditary cutaneous ? ?

Figure 1. Classification of porphyria

In the diagnosis of acute intermittent porphyria, the key laboratory aids have been the presence of porphyrins and porphobilinogens

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(PBG) in the urine in abnormal quantities. Recently, another precursor has been demonstrated in the urine, namely delta-5-aminolevulinic acid (ALA). There are undoubtedly other compounds present, which at some later date may be of more importance. However, at this time the presence of porphobilinogen and ALA is considered highly suggestive of acute intermittent porphyria. Increased delta-5-aminolevulinic acid does not occur in congenital erythropoietic porphyria. Delta-5-aminolevulinic acid is produced in excessive amounts in lead poisoning and this may have to be differentiated from acute intermittent porphyria.

Procedures for the qualitative and quantitative measurement of these metabolites are available in many references. We will not dwell on them except to say that in our laboratory we are now doing quantitative determinations on 24 hour urine specimens for these metabolites. The quantitative amounts must exceed the known normal values for the given age before a chemical diagnosis is made.

Recently, in the pediatric literature,[1, 2] there have been several good papers, both review and case reports,[3] on porphyria in childhood, more specifically, in children under puberty. We have been interested in this problem for many years, and two of our members have written on this subject.[5, 6] I became interested after finding several children whose symptomatology resembled that of acute intermittent porphyria and whose urine contained increased amounts of porphyrins and ALA. Not all of these children had porphobilinogen in their urine, but I am convinced that this does not exclude the diagnosis in these patients.

These cases are representative of our experience:

CASE 1. This 11-year-old Caucasian girl was first examined in January, 1964 with the history of eczema of the hands for several years along with many episodes of stomachache, general malaise and headaches. Physical examination was not remarkable except for her hands, which showed a scaly dry type of eczema. Routine blood and urine studies were within normal range. Protein bound iodine and blood sugar determinations were normal. Tests of the urine were found to be strongly positive for porphyrins and delta-5-aminolevulinic acid on three different occasions. At no time was porphobilinogen demonstrated in her urine. Due to the history of using hand ointments containing mercury, a 24 hour urine for heavy metal determination was done. The mercury level was 0.01 mg. per liter which was well within normal range. The child was started on chlorpromazine, ten mg every six hours. After having shown some improvement, the chlorpromazine was increased to 25 mg every six hours. This provided almost complete relief of her symptoms. Occasionally her symptoms flare up, and extra doses of chlorpromazine are required. Incidentally, this child has an aunt who also has acute intermittent porphyria.

CASE 2. This ten-year-old Caucasian girl was examined in May, 1962 because of periodic abdominal pain during the preceding two or three months. There were also associated abdominal cramping and malaise. There was no vomiting nor diarrhea, but occasional constipation was present. Physical examination was not remarkable. Due to the severity of the pain, she was admitted to the hospital and given meperidine for symptomatic relief. Urines were found to be strongly positive for porphyrins and ALA. She was started on chlorpromazine, 25 mg every six hours. This was gradually increased to 50 mg every six hours. She began to respond clinically but on the fourth day she developed numbness in the right foot and a right foot drop with loss of anterior tibialis function. She was treated by an orthopedist with a brace for the foot drop and was discharged on chlorpromazine. In June, 1962 it was noticed that she had some returning muscle function. In July, 1962 the foot drop was no longer present. She has been continued on chlorpromazine since then and has done quite well.

CASE 3. This 14-year-old Caucasian girl was examined in February, 1963 because of cramping abdominal pains intermittently for some time. With this pain there was no vomiting, and the most intense pain was epigastric in location. Physical examination was not remarkable. An upper gastrointestinal series was normal. Her urines were strongly positive for porphyrins and for ALA. She was given ten mg of chlorpromazine three times daily with some improvement. Later she was admitted to the hospital because of recurrent abdominal pain, and at that time the chlorpromazine was increased to 25 mg three times daily with subsequent improvement of symptoms.

A 1956 graduate of the University of Tennessee College of Medicine, James E. Mays, Jr., M.D., has been certified by the American Board of Pediatrics. In addition to his private practice, he is clinical instructor of the Department of Pediatrics at the University of Oklahoma Medical Center. Doctor Mays is a member of the American Academy of Pediatrics and the Central Oklahoma Pediatric Society.

CASE 4. This 13-year-old boy was admitted to the hospital June 11, 1962 following an acute abdominal pain which began one day before admission. This was one of many bouts of acute upper abdominal pain that this child had experienced during the last six or seven years. It was concluded that he did not have a surgical abdomen. His blood counts were within normal limits and the urine was negative on routine examination. The urine was strongly positive for porphyrins and ALA. He was started on chlorpromazine, 25 mg every six hours which promptly alleviated his symptoms. This boy keeps chlorpromazine at home. Once he feels the pain returning, he resumes medication and this has aborted subsequent dramatic episodes of pain.

CASE 5. This nine-year-old Caucasian boy was examined with the history of periodic attacks of abdominal pain beginning two months before being seen in our office. There was no vomiting, but the patient became very pale and tired. The pain lasted from a very few seconds to half a minute and then subsided always to recur within a few minutes. Headaches did occur at this time. An upper gastrointestinal series was normal. Tests of the urine were positive for porphyrins and ALA, but negative for porphobilinogen. He was treated with chlorpromazine with good symptomatic relief.

CASE 6. This nine-year-old Caucasian girl was examined because of repeated attacks of upper abdominal pain for one month. Physical examination and routine laboratory studies were within normal limits. An upper gastrointestinal series was normal. The urine was positive for porphyrins and ALA. She was treated with chlorpromazine with dramatic reduction of her symptoms.

CASE 7. This three-year-old Caucasian girl was admitted from the Presbyterian Hospital Emergency Room with the history that she had been comatose for two days. The immediate examination revealed that she was in diabetic acidosis and coma. She was treated appropriately with fluids and insulin. She responded quite slowly and did not follow the expected course of a juvenile diabetic in acidosis. During this time she developed a left foot drop, and a lumbar puncture was done as part of the work-up because of the neurologic problem. No abnormalities of the spinal fluid were found. Her urine was then checked and found to be strongly positive for porphyrins and ALA. She was started on chlorpromazine, ten mg every six hours and within 24 hours she was clinically much improved. She was ambulatory, eating and obviously feeling quite well. At the time of discharge, her diabetes was under good control, and she was taking chlorpromazine ten mg every six hours for porphyria. She still had left foot drop and this was treated with physical therapy and a brace. Her foot drop subsided in about three months, and has not recurred. Since she lives some distance from Oklahoma City, during an episode of vomiting and acidosis, she was given a seconal suppository inadvertently elsewhere, which may have precipitated a crisis of her acute intermittent porphyria.

This child's family history is extremely interesting in that her mother and nearly one-third of the family on the maternal side as well as her father have positive urines for porphyrins and ALA.

CASE 8. This 12-year-old Caucasian girl was examined because of the relatively sudden onset over a period of a few days of an isolated left peroneal nerve paralysis. Physical examination and all laboratory studies were normal except for the urine which was strongly positive for porphyrins, ALA and porphobilinogen. Quantitative analysis of 24 hour urines revealed marked elevation of all components. She was treated with chlorpromazine, 25 mg every six hours, with relief of her symptoms except for the foot drop, which is being treated with a brace. In her past history this child had been classified as "nervous" all her life and had had frequent episodes of headache and stomach ache as well as other vague neurologic complaints. It is interesting to note that on checking her family the mother also has acute intermittent porphyria.

DISCUSSION

The diagnosis of acute intermittent porphyria should be considered in children under puberty who have any of the following symptoms: Weakness, malaise, intermittent colicky abdominal pain, headaches, or isolated muscle group paralysis. Chronic eczema due to photosensitization of the exposed parts of the body is unlikely in childhood; however, Case 1 had this as part of the symptomatology. All of the patients in this series had positive urinary findings when checked for porphyrins and its precursors; likewise they had increased urinary excretion of porphyrins and delta-5-aminolevulinic acid. In approximately 50 per cent of these patients, we were able to demonstrate the presence of porphobilinogens in the urine. One possible explanation for the difficulty in demonstrating porphobilinogen in the urine is the fact that

the reaction converting porphobilinogen to porphyrins is an autocatalysed reaction initiated by the presence of porphyrins which normally proceed very rapidly. If the time interval from collecting the specimen to doing the laboratory procedure for porphobilinogen is prolonged, most or all of the porphobilinogen have been converted to porphyrins. Aside from the laboratory findings and clinical symptoms, the most important diagnostic test in our experience has been the complete relief of symptoms following the administration of chlorpromazine (Thorazine) in an amount of from two to four times that recommended for sedation. If the patient involved has acute intermittent porphyria, in our experience, the symptoms are relieved in six to 18 hours, and the patient remains alert and free of sedation. If the patient does not have acute intermittent porphyria, prompt sedation occurs without relief of symptoms.

SUMMARY

Eight cases of acute intermittent porphyria in children have been reported in the age range from three to 12 years. These children all had symptoms of acute intermittent porphyria as well as chemical aberrations of increased porphyrins and ALA in their urine. In four of these children, there is a definite family history of acute intermittent porphyria. In our opinion the fact that porphobilinogens were not demonstrated in the urine should not deter one from making a diagnosis of acute intermittent porphyria if chlorpromazine produces relief of symptoms without sedation.

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Scientific Paper

THE FOUR YEAR MEDICAL SCHOOL ISSUE

George W. Knabe, Jr., M.D.*

There has been a lot of talk lately about a four-year medical school for South Dakota. This has been stimulated, in part, by concern over how long it may be possible to transfer students from our two-year program into four-year medical schools elsewhere. In many four-year schools the old pattern of two years of basic sciences and two years of clinical instruction has disappeared. Thus, it is becoming difficult for our students to fit into some of the highly integrated and accelerated new curricula. Some of the talk about a four-year school is the result of a proposal that is being promoted on behalf of the Regional Medical Programs. This plan has been prepared by the Coordinator of Regional Medical Programs for South Dakota, but it has not been endorsed by the School of Medicine.

The University of South Dakota has no specific plans to establish a four-year medical school. This is not to say that we are not vitally interested in the future of our educational program. In an article in this Journal in April 1967 I wrote of the need for South Dakota to seriously study how best to develop its health education resources to meet the public needs and demands. However, the medical school and its parent university consider that there should be a comprehensive study of all of the practical ways of developing and improving the medical program. It would be inappropriate and premature to focus attention on only one possible approach.

The Regional Medical Program proposal envisions creation of a number of clinical teaching units in selected medical centers about the State to provide the third and fourth years of education. Another proposal considered worth exploring involves expansion of the clinical teaching activities of the presently-affiliated hospitals in Yankton and Sioux Falls into a four-year program. Still another approach would be to develop a cooperative arrangement with the U. S. Public Health Service whereby the Indian population could be used for clinical teaching. Also, the Veterans Administration, under its newly expanded authority, could play an active part in a four-year program. It has already been proposed in the South Dakota Legislature that North and South Dakota join forces with Montana and Wyoming to develop a regional medical school. Some have suggested that instead of expanding the program within our State a formal arrangement be made with one or more four-year schools to accept our transfer students. These and many other thoughts on the subject have been expressed.

Any feasibility study of a four-year medical school should be conducted by a team of experts or an agency which has had experience in this field of investigation and which can prepare a report that will be useful to South Dakota and acceptable to the medical school accrediting agencies. Outside support will probably be needed to finance such a study. We have already made preliminary inquiries of several of the philanthropic and governmental agencies which might assist in this. Unfortunately, we have had to set aside our plans to pursue such a study because of more urgent matters concerning the operation of our present medical school.

A four-year medical school in South Dakota would, of course, be built upon the foundation of the present two-year school. Yet, the two-year school is in trouble. "Status quo" budgets over the past years, a non-competitive position with regard to salaries and fringe benefits for faculty, our relative geographical isolation, and the fact that we are a two-year school — all of these things have combined to keep the school and its programs at or below a bare subsistence level. These, and many other chronic deficiencies, have been repeatedly mentioned by the accrediting agencies and various consultants in their reports. Now, we are about to enter another year with financial support in many important areas below the level of the current year. In addition, costs for equipment and supplies are 10% to 20% higher than a year ago; our enrollment has expanded by 10%; and the U. S. Government has reduced its support for research and training (approximately 10% at this institution) and will continue to do so. In the light of these circumstances, it is difficult for those responsible for the operation of the existing two-year program to see much hope of expanding into a more costly four-year program.

* Dean, School of Medicine, University of S. D., Vermillion, S. D.

The financial crisis being faced by medical schools today "is indeed a crisis and unless huge sums of money are made available soon these schools will succumb as institutions." So observed Carleton B. Chapman, M.D., dean of the two-year Dartmouth Medical School, speaking at the 64th Annual Congress on Medical Education in Chicago in February. At the Mid-West Regional Meeting of the Association of American Medical Colleges held in Chicago, March 15, Dr. Leon O. Jacobson, dean of the University of Chicago School of Medicine mentioned the rumor that 10 to 20 medical schools may close in the next 10 to 15 years because of financial difficulties. Dr. Robert C. Berson, Executive Director of the AAMC agreed with him that many schools are in serious difficulty. In a 29-page report entitled, **The Crisis of the Medical Schools,** a committee of medical school deans and other educators from medical schools throughout the United States observed that the medical schools of the nation face a serious financial crisis that imperils their educational role and jeopardizes the success of many of the new health programs enacted by recent legislation. Provisions of the new Health Manpower Amendments of 1968 are not expected to materially alleviate the situation. If enacted, the law would not be effective until after 1970 and the availability of funds is considered uncertain. Whether it is likely that medical schools will close, no one is willing to conjecture. However, one school of dentistry, that of St. Louis University, has recently closed. This, in the face of a national shortage of dentists that many consider is as bad as the shortage of physicians.

We in South Dakota are going to have to come to grips with the fact that a medical school, be it two years or four years, is a complex and very expensive operation. Whether we should embark upon an ambitious program to expand to four years while we are struggling to keep alive a two year program is highly questionable. Yet, rapidly occurring changes in patterns of medical education and in the administration and delivery of health care in the United States make it necessary that there be changes and improvements in our educational program. Therefore, South Dakota should plan for eventual establishment of a full four-year medical curriculum or an equivalent program leading to the granting of the degree of doctor of medicine. These plans should be prepared promptly since it will probably require ten years for the new program to become a physical reality. But before such planning is seriously undertaken, the present plight of our medical school must be recognized and appropriate action taken immediately. This action must include a substantial increase in financial support if the School of Medicine is to survive.

WHERE THE MONEY GOES

How do American families spend their money? The Bureau of Labor Statistics estimates that the typical urban homeowner family of four would spend a typical $100 in the following way: food — $22.70; shelter — $20.10; personal taxes — $11.90; transportation — $8.70; clothing — $8.10; miscellaneous — $7.70; medical care (including medical insurance) — $5.00; payroll deductions (Social Security, etc.) — $3.10; home furnishings — $2.80; gifts and contributions — $2.70; household operation — $2.30; personal care — $2.30; life insurance — $1.70; occupational expenses — $.90.

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RADIOLOGIC CASE PRESENTATION No. 3

Martin Frank Petereit, M.D.*

Because the history is quite pertinent in this case, it will not be given first.

Figure I shows an erect six foot posterior-anterior chest film of an eighty year old female. The transverse diameter of the heart is slightly increased, most likely due to left ventricular enlargement. The aorta is moderately tortuous. A few calcific densities are seen in the right upper lobe, probably due to old granulomatous disease. There is an alveolar infiltrative process scattered throughout both lower lung fields. This process is of moderate severity and is best appreciated in the right lung. One year later (see figure 2) the findings are nearly the same. Some of the infiltrate is a little less apparent because of the darker technique.

Figure 1.

Erect six foot P. A. chest film of an eighty-year-old female.

Figure 2.

Similar film taken one year later. Note that this film was taken with a little darker technique.

Alveolar Infiltrates

The term "alveolar infiltrate" implies the presence of some substance in the alveolar sac. This substance can be any one of the following:

A. Transudate- pulmonary edema, as occurs with congestive heart failure, uremia, circulatory overload, drowning, inhalation of noxious gases, allergic reaction, neurogenic reaction, etc.

* Medical X-Ray Center, Sioux Falls, South Dakota.

B. Exudate- various bacterial pneumonias.
C. Blood- hemosiderosis, idiopathic pulmonary hemorrhage, etc.
D. Protein- alveolar proteinosis, etc.
E. Cholesterol- cholesterol pneumonia.
F. Lipid- lipoid pneumonia from inhalation of oily nose drops, etc.
G. Cells- eosinophils, as seen with some parasitic infestations, etc. Cancer cells of alveolar cell carcinoma may mimic an inflammatory process, etc.

Although any of these entities could give the same picture in a certain segment of pulmonary tissue, it is the distribution of the infiltrate, its behavior on serial films, etc., along with the clinical history, that usually leads to the correct diagnosis. Transudates are characterized by rapid change, while exudates change slowly. Blood, as it resolves, may become an interstitial type of infiltrate. Protein appears the same for months, etc.

The roentgenographic features of an alveolar infiltrate include blurring of the vascular markings and alveolar "rosettes." A rosette is an alveolar sac (the sac is a terminal group of pulmonary alveoli) filled with any of the substances listed previously and it may be as large as one-fourth inch on the film. A large number of closely packed rosettes results in a homogenous density.

Interstitial Infiltrates

This type of infiltrate involves the bronchial walls, peribronchial tissues, interalveolar septa, alveolar walls, etc. The alveolar sac remains clear. Interstitial infiltrates may be observed with the following diseases:

A. Sarcoidosis.
B. Collagen disorders- such as progressive systemic sclerosis (scleroderma).
C. Tuberous sclerosis.
D. Hammon-Rich syndrome.
E. Histiocytosis X- Gaucher's disease, etc.
F. The end stage of idiopathic hemosiderosis and lipoid pneumonia.
G. Neurofibromatosis.
H. The pneumoconioses.
I. Radiation fibrosis or "pneumonitis."
J. Lymphangitic spread of carcinoma.
K. Viral pneumonia- often associated with obstructive atelectasis and/or obstructive emphysema. These changes may persist for weeks.
L. Sequelae of bacterial pneumonias, tuberculosis, fungus infections, etc.

Although this list is not complete, it encompasses most of the etiologies responsible for this type of pulmonary density. The actual appearance of the infiltrate will depend upon the disease causing it, its severity and duration. In the acute diseases (such as viral pneumonia), the chest film may show exaggerated bronchovascular markings which are surrounded by patches of increased density. If these patches of increased density coalesce, they may resemble an alveolar infiltrate. Therefore, it is often impossible to differentiate between bacterial and viral pneumonias on the roentgenogram. In the chronic diseases, the infiltrate assumes a more linear and "fibrotic" appearance.

Combined Infiltrates

In certain stages of certain diseases, such as sarcoidosis, fungus diseases, tuberculosis, cystic fibrosis, lipoid pneumonia, etc., the infiltrate may be both alveolar and interstitial. Also, the presence or absence of hilar adenopathy and/or pleural involvement are important considerations in the differential diagnosis of pulmonary infiltrates in general.

Continuation Of The Case Presentation

The main finding in this case is a bilateral lower lobe alveolar infiltrative process, the appearance of which is almost the same after an interval of one year. The original films also show a minimal interstitial component.

The patient had essentially no chest symptoms, but she did have basilar rales for many months. Studies for tuberculosis were all negative. However, sputum examination revealed lipid-laden histiocytes. The past history revealed that she had inserted vaseline into her nose several times a day for several years.

Discussion

At one time it was thought that lipoid pneumonitis affected only defective children, debilitated individuals, etc., who could not swallow properly. However, eventually it was realized that healthy people could develop this disease from the prolonged use of oily nose drops or laxative oils. In infants, it may follow aspiration of milk, cream, vitamin oils, etc. In adults, mineral oil, in some form, has been the chief offender. The pulmonary distribution depends on the type of oily medication used and on the position in which it is used. Aspirated mineral oil is usually deposited in the dependent portions of the lung. Inhaled oily nose drops tend to be more diffusely distributed.

As the disease process begins, the infiltrate will be alveolar. Later, as the granulomatous

reaction takes place, fibrotic changes will develope and interstitial changes will be seen. If the disease progresses (that is, if the patient continues to use the oily medication), bronchiectasis may develope. Cessation of use of the oily medication usually halts significant progress of the disease. The bases and posterior portions of the lungs are chiefly affected. Large densities may simulate neoplasms and may be called paraffinomas. Although the apices are usually clear, lipoid pneumonia may simulate tuberculosis.

The diagnosis is made by the identification of lipophages in the sputum. Direct lung aspiration or biopsy is rarely necessary to make the diagnosis. The sputum should be collected in the morning before breakfast, but after the mouth has been cleansed. This diagnosis has also been made via fluorescence microscopy, that is, by the fluorescent staining of the engulfed oil particles.[1]

While the symptoms of this disease are not usually very prominent, the patient may have a little cough, expectoration, low grade fever and decreased exercise tolerance. However, the relative absence of respiratory symptoms does not mean that pulmonary function is unimpaired. If pulmonary function studies are done, the ventilatory pattern reveals a restricted lung volume without airway obstruction and, with exercise, there is decreased arterial oxygen saturation.[1]

Acute lipid pneumonitis has been reported following the aspiration of pressurized paint.[2] The patient was a 55-year-old male who presented with a history of fever, night sweats and productive cough of three weeks duration. Prior to this illness, he had sprayed a number of refrigerators and cabinets with an electric paint sprayer in a small unventilated room. Also, he failed to use a protective respiratory device. His chest film revealed a large left upper lobe abscess with an air-fluid level. Studies for tuberculosis, carcinoma, etc., were negative. A left upper lobectomy was performed. Microscopic examination disclosed alveoli containing many lipid-bearing macrophages that stained orange-red with sudan 4 and black with osmic acid.

Similar experimental changes have been produced in the lungs of white mice exposed to various oil aerosol mists. Experimental studies have also shown that surfaces that oppose air flow, namely, the terminal bronchioles and alveolar ducts, receive the greatest impaction of oil particles.[2]

Conclusion

A case of lipoid pneumonitis following the chronic use of intranasal vaseline is presented. Alveolar, interstitial and combined types of pulmonary infiltrates are defined and discussed. Lipoid pneumonitis, as a disease process, is examined from several aspects. Given the situation of a predominant alveolar infiltrate (usually lower lobe) and a history of some type of lipid exposure, the diagnosis of lipoid pneumonitis can be made by the identification of lipid-laden macrophages in the sputum.

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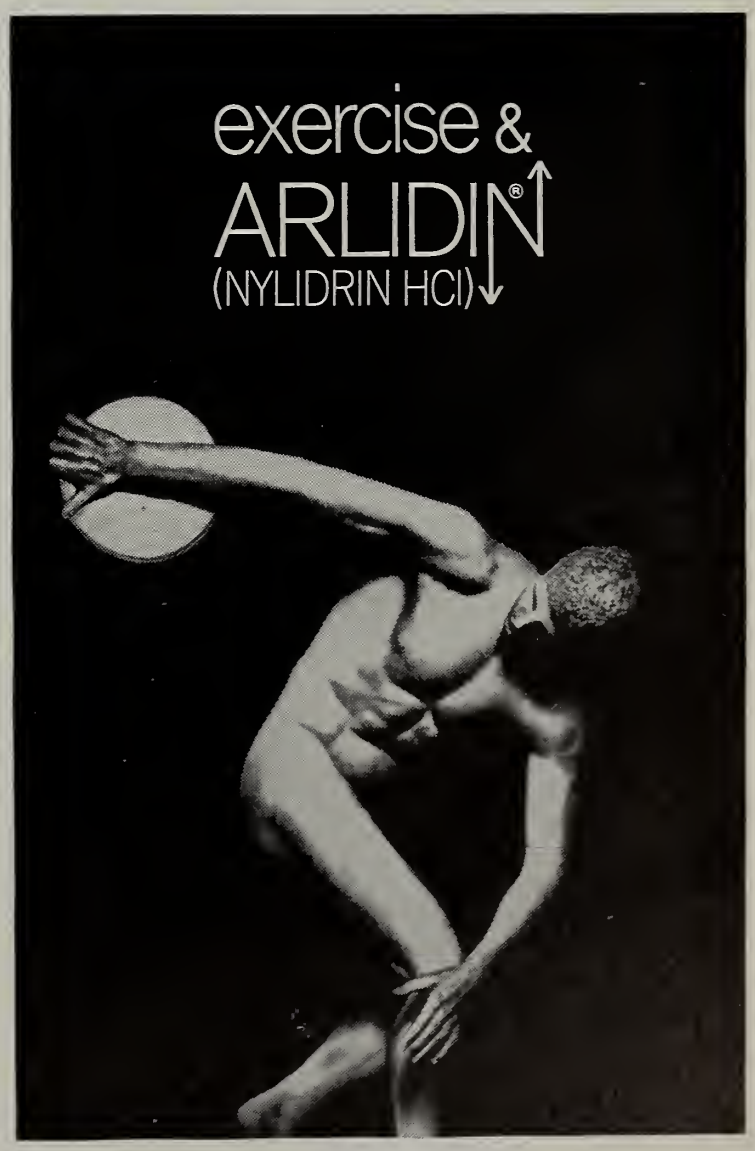
CAUTION! HELP SAVE LIVES

The primary cause of accidental poisonings among children last year was aspirin, according to the Poison Control Center at Duke University Hospital. During 1967 the center reported that 72 percent of the 807 poisoning cases involved children 10 years of age and under. Most accidents could be traced to carelessness on the part of parents or other adults.



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Warnings: Not of value in treatment of psychotic patients, and should not be employed in lieu of appropriate treatment. As with most CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving). When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may also be associated with temporary increase in frequency and/or severity of seizures. Advise patients against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance. Keep addiction-prone individuals (such as drug addicts or alcoholics) under careful surveillance because of their predisposition to habituation and dependence. Use of any drug in pregnancy, lactation or in women of childbearing age requires that potential benefit be weighed against possible hazard.
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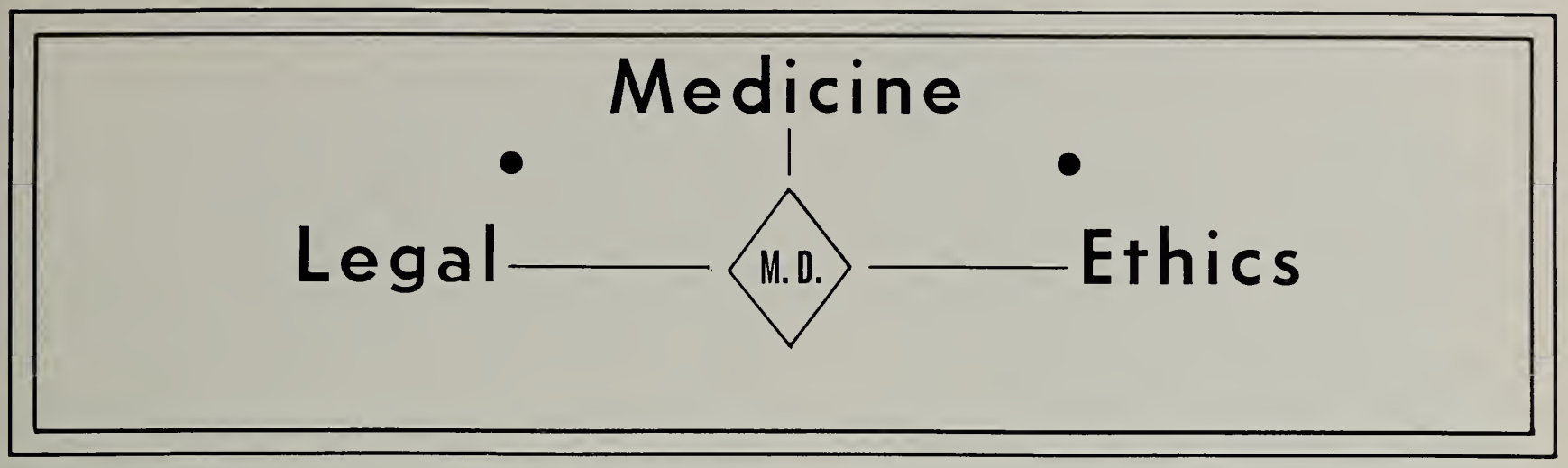

PRESUMPTION OF LEGITIMACY CONCLUSIVE

In a proceeding by a husband to have an order set aside which required him to support a child born to his wife, a trial court did not err in refusing to admit in evidence results of blood tests which showed that he could not be the child's father, a California intermediate appellate court ruled. It is provided by statute that the issue of a wife cohabiting with her husband, who is not impotent, is conclusively presumed to be legitimate. The provision has repeatedly been held to mean precisely what it says. There was no contention that the husband was impotent and the fact that cohabitation was for only several days made no difference.

* * *

COMPENSATION BENEFITS DENIED BECAUSE OF CLAIMANT'S REFUSAL OF SURGERY

The denial of benefits, under the Workmen's Compensation Act, for the disability of the claimant's hand was proper, where the evidence supported the finding that his refusal of corrective surgery on the hand was unreasonable, the Court of Appeals of Maryland ruled.

The test for determining whether a claimant's refusal of surgery is reasonable is whether a reasonably prudent man would be expected to undergo it. The claimant's own fears and beliefs, as such, have no bearing on the matter. The chance of success and the benefit to be gained must be weighed against the risk to life and health and the pain and inconvenience involved in the procedure. The evidence was undisputed that the operation, if successful, would substantially improve the claimant's condition, although there was a conflict in the evidence as to the possibility of success. There was no evidence that the operation involved any risk to life or was particularly dangerous. Any inconvenience from the operation would be moderate and of short duration.

* * *

UNNECESSARY SERVICES

It is unethical and contrary to Section 4 of the Principles for a physician to provide or prescribe unnecessary services or unnecessary ancillary facilities.

* * *

EVASION OF LEGAL RESTRICTIONS

An ethical physician will observe the laws regulating the practice of medicine and will not assist others to evade such laws.

* * *

MEMBERSHIP IN MEDICAL SOCIETIES

For the advancement of his profession, a physician should affiliate with medical societies and contribute his time, energy and means so that these societies may represent the ideals of the profession.

* * *

DISPUTES BETWEEN PHYSICIANS

Whenever there arises between physicians a grave difference of opinion, or of interest, which cannot be promptly adjusted, the dispute should be referred for arbitration, preferably to an official body of a component society.

(Continued on Page 73)

Information provided by the Law Dept. of the American Medical Assoc., 535 N. Dearborn, Chicago, Ill. 60610.

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

THE EARLY DETECTION OF DIABETES MELLITUS

Greater emphasis is being placed upon the importance of alerting the general public to the desirability of early detection of diabetes mellitus. Physicians will of course play the key role in this program, and they should be aware of the importance of utilizing methods of detection aimed at examining large numbers of clinically well individuals.

Automated methods of analysis now make it economically feasible to test large numbers of persons, and a significant number of those tested are being shown to have unsuspected diabetes mellitus. It has been estimated that in the United States there are two million or more people who are unaware that they have diabetes.[1]

Diabetes can be detected long before it becomes symptomatic, and early diabetes usually can be controlled with relatively simple methods. The key, therefore, in the problem of diabetes is early detection.

The 2-hour post prandial blood sugar following a meal containing at least 100 grams of carbohydrate is the single most important measurement in the detection of early diabetes. Testing the urine for glucose is also important but glycosuria is usually a manifestation of late disease, and there often is no glycosuria in asymptomatic diabetes. Furthermore, the fasting blood sugar level may be within normal limits early in the disease.

A 2-hour post prandial blood sugar value below the upper limits of normal established for fasting sugar values excludes a diagnosis of diabetes mellitus. In general, however, a 2-hour post prandial blood sugar above 140 mg.% strongly suggests its presence. Patients with 2-hour post prandial values between 110-140 mg.% are in the doubtful range and all such patients should have a glucose tolerance test for definitive diagnosis. A normal repeat 2-hour post prandial level may be misleading because the early diabetic may show only intermittent elevations of blood sugar.

For this same reason, the occasional high value obtained in a screening procedure needs to be rechecked several times before being considered as not significant or an error in technique. This is particularly true if the patient is pregnant, the relative of a diabetic or other type of individual who is a potential diabetic.

If a glucose tolerance test is necessary the patient must be placed upon a diet containing 250-300 grams of carbohydrate daily for at least three days before the test. This dietary requirement is a very important one because carbohydrate restriction, by itself, has been shown to impair the utilization of carbohydrate, presumably through a temporary decrease in pancreatic insulin concentration.[2] In this way an otherwise normal individual who has restricted his carbohydrate intake prior to a glucose tolerance test may falsely show a diabetic glucose tolerance curve.

In performing the glucose tolerance test, 100 grams of glucose in solution are ingested by the patient after fasting blood and urine specimens have been obtained. Blood and urine glucose values are then determined at ½, 1, 2, 3 and 4 hour intervals after the ingestion of the glucose. The criteria upon which a diagnosis of diabetes mellitus is established vary somewhat due in large measure to the different normal values obtained by different methods for analyzing the blood sugar. The following figures pertain to values obtained by the Auto-Analyzer method. (Normal fasting range of values 70-110 mg. per 100 ml.) Blood sugar values consistently above 160 mg.% at one hour and above 120 mg.% after two hours in the absence of other disease, are diagnostic of diabetes. Values between 150 mg.% and 160 mg.% at one hour and between 110 mg.% and 120 mg.% after two hours are borderline and require a repeat glucose tolerance test or use of other tests such as a cortisone glucose tolerance or an intravenous tolbutamide test. In glucose tolerance tests occasional individual values may be altered because of unusually slow or rapid gastric emptying. Most authorities are in agreement that to make a diagnosis of diabetes mellitus the blood sugar following a glucose load should not only rise abnormally high but it should remain elevated for a prolonged period of time. Both the height and duration of elevation of the curve should be abnormal.[3]

Before a cortisone glucose tolerance test is done the patient should be put on a diet containing 300 grams of glucose daily for three days. If the body weight is below 160 pounds, 50 mg. of cortisone acetate is administered orally, 8½ hours and again 2 hours before the glucose tolerance test. If the weight is above 160 pounds, 62.5 mg. of cortisone acetate is administered each time. The patient is then given 1.75 grams of glucose per kilogram of ideal body weight and blood sugars are determined at 0, 30, 60, 90 and 120 minutes after glucose ingestion. Values above 160 mg.% at one hour and 140 mg.% at two hours indicate diabetes mellitus.[1]

The tolbutamide tolerance test makes use of the more rapid fall in blood sugar in the normal as compared to the diabetic individual when tolbutamide is administered intravenously. One gram of tolbutamide is given intravenously over a 3 minute period and blood for sugar determination is drawn 20 minutes and 30 minutes later. A fall in blood sugar at 20 minutes to less than 75% of the fasting level rules out diabetes. A blood sugar at 20 minutes, which is 90% of the fasting level indicates diabetes. A 30 minute value of 80% or more of the fasting level is diagnostic of diabetes. The test is quite reliable except during pregnancy when other hormone factors may interfere.

It must be emphasized that **not all diabetic-like glucose tolerance curves** mean diabetes mellitus. Similar curves are seen in patients with thyrotoxicosis, pheochromocytoma, Cushing's syndrome and acromegaly.

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GAIN IN NURSE GRADUATES IN '67

More R.N.s were graduated from nursing schools last year than in 1966, according to a report from the National League for Nursing. But the report also showed a decline in the number of enrollments for 1967 as compared with the previous year. The report listed 38,237 students as graduated from nursing programs last year compared with 35,125 the year before. On the other hand, admissions during 1967 dropped 2,001.

When eating fads of teens or tots Lead to a sudden case of "trots"

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin, and protects intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

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Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) . . . . . (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin . . . . . (2½ grains) 162 mg.
Kaolin (specially purified) . . . . (85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

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20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — May, 1948

The 67th Annual Meeting of the South Dakota State Medical Association will be held in Sioux Falls, South Dakota, May 30-June 1, 1948. The following speakers will be featured on the program:

Morris Fishbein, M.D. (Editor, JAMA)
Emil D. W. Hauser, M.D. (Chicago Orthopedist)
Donald Hastings, M.D. (U of Minn. Psychiatrist)
L. Fernald Foster, M.D. (Michigan's Secretary)
C. E. Roach, M.D. (Research Pediatrician)
A. Graham Asher, M.D. (Kansas U Internist)
A. W. Diddle, M.D. (Dallas Ob. & Gyn)
W. A. Fansler, M.D. (Minneapolis Proctologist)
N. G. Alcock, M.D. (Iowa U Urologist)
Harry Weber, M.D. (Mayo Roentgenologist)
F. W. Lynch, M.D. (St. Paul Dermatologist)
H. L. Williams, M.D. (Mayo Ophthalmologist)
J. A. Myer, M.D. (Tuberculosis)
H. M. Peterson, M.D. (National Physicians Committee)

* * * * *

Death claimed the lives of four South Dakota physicians the last week of April, 1948.

Dr. O. V. Opheim, 62, of Sioux Falls, died suddenly April 28th from a heart attack.

Dr. R. W. Mullen, 69, of Sioux Falls, died at a Sioux Falls hospital, April 29th of a heart attack suffered at Worthington, Minnesota, earlier in the afternoon.

Dr. J. C. Greenfield of Avon, South Dakota, died April 27th, in a Sioux City hospital.

Dr. J. C. Shirley, 63, native of Lake County and for many years a physician at Huron, died in Rochester, Minnesota, on April 28. Dr. Shirley served as President of the South Dakota State Medical Association in 1940.

* * * * *

Appointment of Dr. V. V. Kobza of Omaha, to the staff of the Rapid City Medical Center to assist in Obstetrics and Gynecology was announced by Dr. J. D. Bailey.

* * * * *

Excerpts from "Transorbital Lobotomy"
A Preliminary Report of Twenty Four Cases
F. W. Haas, M.D. and D. B. Williams, M.D.
Yankton State Hospital

Indications for Lobotomy

Current literature contains abundant information concerning the functions of the frontal lobes and the effect of interruption of these functions. Briefly it can be stated that lobotomy is an attempt to isolate those areas of the frontal lobes having to do with the emotional components of ideation. Therefore, mental illnesses characterized by tension, anxiety, depression, apprehension, mental suffering, obsessions and aggressive behavior can be expected to benefit most from lobotomy. Most of our cases were chosen with these factors in mind, but some of them were operated on because all other treatment had failed.

Clinical Material

Schizophrenia:
16 cases
4 or 25% unimproved
1 or 6% worse
6 or 36% improved
5 or 30% very much improved and at home

Involutionals:
3 cases
1 or 33% improved but has since relapsed
2 or 66% very much improved and at home

Manic Depressives:
5 cases
1 or 20% unimproved
1 or 20% improved
3 or 60% apparently well and at home

Comment

Supra-orbital lobotomy is apparently a safe procedure which does not require the experience of a neuro-surgical specialist. It offers promise

of alleviating some mental disorders which do not respond to other methods of treatment. As the indications become more clear cut so that the cases can be more accurately selected, the percentage of good results will no doubt rise.

* * * * *

The Aberdeen District Medical Society met in the Harbor Cafe in Aberdeen, on April 6th, 1948. 30 of the members were present and following a dinner, Dr. H. Russell Brown, President of the State Medical Association gave a resume of the problems confronting the medical profession in the state at the present time. Dr. Norman Nelson of Minneapolis, spoke on Psychosomatic, which was well received by the members of the Society.

* * * * *

The Yankton District Medical Society met in Vermillion, for their spring meeting, April 15. Dr. David Tschetter, who was recently added to the staff of Sacred Heart Hospital in Radiology presented a paper on "Gastrointestinal Studies."

AMA REPORTS NEW STATISTICS ON MEDICAL PRACTICE

Highlights of the first periodic survey of physicians, recently published by the American Medical Association's Department of Survey Research, showed that: office-oriented physicians practiced an average of about 56 hours a week; of the 56 hours, more than 45 were devoted to direct care of patients; most doctors practiced 48 weeks a year; the average number of office visits was 95 per week; surgeons reported an average of 49 hospital visits per week while general practitioners reported 35. The survey data is based on replies from 2,833 physicians throughout the country.

MIDWIVES

There are nine schools in the U. S. that are now training midwives. These schools have graduated 1,131 certified nurse-midwives since 1932. Graduates of such schools at Columbia, Yale, and Johns Hopkins are practicing clinical midwifery at such hospitals as Kings County in Brooklyn and Roosevelt in New York City.

COSTS OF MENTAL ILLNESS

Treatment and prevention of mental illness cost nearly $4 billion during 1966, according to the National Institute of Mental Health. Actually, mental illness cost the U. S. economy almost $20 billion.

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Contraindications: Dextro-amphetamine sulfate: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions to meprobamate.
Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.
Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness. Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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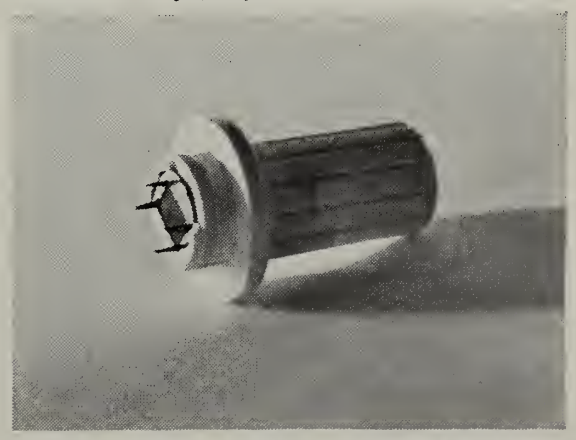

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Adverse Reactions: Drowsiness; dry mouth; nasal congestion; constipation; amenorrhea; miosis; mild fever; weight gain; hypotensive effects, sometimes severe with I.M. administration; epinephrine effects may be reversed; dermatological reactions; parkinsonism-like symptoms on high dosages (in rare instances, may persist); lactation and moderate breast engorgement (in females on high dosages); and less frequently, cholestatic jaundice (use cautiously in patients with liver disease). Adverse reactions occurring rarely, include: mydriasis; agranulocytosis; skin pigmentation; epithelial keratopathy; lenticular and corneal deposits (after prolonged substantial doses).

Available: Tablets, 10 mg., 25 mg., 50 mg., 100 mg. and 200 mg.; Spansule® capsules, 30 mg., 75 mg., 150 mg., 200 mg. and 300 mg.; Injection, 25 mg./cc.; Syrup, 10 mg./5 cc.; Suppositories, 25 mg. and 100 mg.

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THE MONTH IN WASHINGTON

THE MONTH IN WASHINGTON

The American Medical Association and the Association of American Medical Colleges announced a joint policy statement calling for a substantial increase in the number of medical students.

Dr. Milford O. Rouse, president of the AMA and Dr. John Parks, president of the AAMC, reviewed the joint statement at a news conference in Washington.

The statement "emphasized the urgent and critical need for more physicians if national expectations for health services are to be realized." The statement said:

"National policy which would best meet this need, and would be consistent with the American ideal of equal educational opportunity for all, would provide such educational resources that every young person interested in and qualified for entry to the study of medicine would have this opportunity. Both Associations endorsed the position that all medical schools should now accept as a goal the expansion of their collective enrollments to a level that permits all qualified applicants to be admitted. As a nation, we should address the task of realizing this policy goal with a sense of great urgency.

"In their endorsement of and call for broadening educational opportunity for the study of medicine, both Associations stressed that the length of time necessary to realize such a goal does not minimize the need to respond to today's critical shortage of physician manpower. In order to enable the nation's medical schools both to meet today's crisis and to attain the longer-range goal of unrestricted educational opportunity, those responsible for allocation of resources must recognize the magnitude of these tasks."

The two associations said both immediate and long-range steps should be taken.

The immediate steps are:

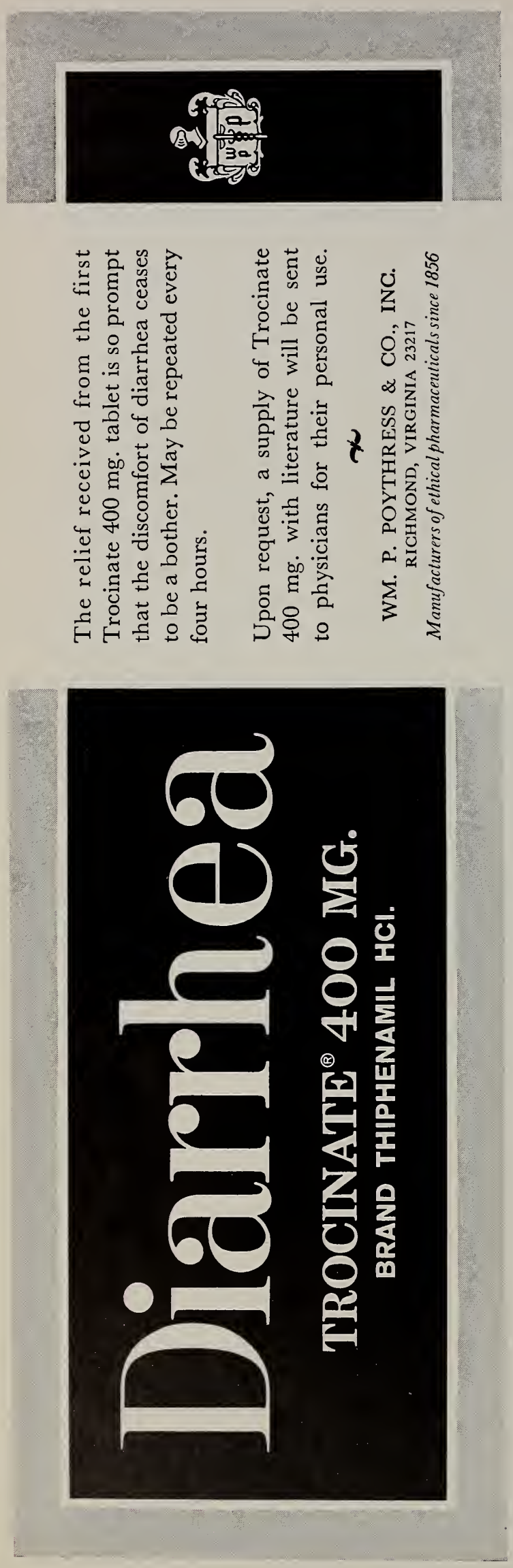
1. To increase the enrollment of existing medical schools.
2. To foster curricular innovations and other changes in the educational programs which could shorten the time required for a medical education and minimize the costs.
3. To meet the need for innovation in educational programs and to encourage diversity in the character and objectives of medical schools. The development of schools of quality where a primary mission is the preparation of able physicians for clinical practice as economically and rapidly as possible is to be encouraged . . .

"A longer-range approach to the need for physicians is the development of new medical schools," the statement said. "This approach will not solve our immediate, urgent need for more physicians but it is essential for meeting the national needs of 1980 and beyond."

The two associations said the longer-range program would require adequate financial support from governmental and various private sources for:

1. Construction of facilities to expand enrollment of existing schools and to create new schools.
2. Support of the operational costs of medical schools.
3. Stimulation and incentive for educational innovation and improvement.

"To implement these measures will further require that each medical school and its university reexamine its objectives, its educational program, and its resources to determine how it can contribute most effectively to the national need for more physicians and what financial help it will need to make this contribution," the statement said. "Also required is understanding by the public, the private foundations, industry, local and state governments, and the national



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Congress — groups which must provide the financial support which is necessary.

"Initiative for development of new schools and expansion of the established institutions should be locally determined. Only the governing bodies of schools with ongoing programs in medical education can decide to expand such programs. Institutions wishing to organize new medical schools must assume the responsibility for marshalling the necessary support. Both associations are prepared to lend any assistance they can to such efforts."

* * *

In a health message to Congress, President Johnson proposed control of prices of drugs bought for government programs and asked for authority for the Food and Drug Administration to publish a drug compendium financed by drug manufacturers. He also asked for more money for health manpower and the maternity and child health programs.

With an objective of lowering costs, he also asked for authority for the Health, Education and Welfare Department to establish new formulas for reimbursement of hospitals and physicians under medicare, medicaid and maternal and child health programs. The Social Security Administration immediately announced that it would begin "an experimental program to find methods of reimbursing hospitals and doctors that will have built-in incentives to efficiency and economy."

Participation in such experiments would be entirely voluntary, the SSA said. And Congress would have to approve the necessary legislation before new methods of reimbursement could be put in effect on a mandatory basis.

Under medicare, a physician now is reimbursed on the basis of his usual and customary fee if it is considered reasonable.

HEW said two methods of reimbursement involving physicians that might be tried are:

—Group practice prepayment plans which offer comprehensive health services to their members could be reimbursed on a set per capita rate for the ensuing period.

—For physicians' services, experimental bases of payment might be a single fee related to total illness services rather than individual fees for each individual visit and individual service, agreed-upon fees held stable for specified periods, fees related to physician-time, or retainer or per capita payments per year for services of a specified kind.

Commenting on Mr. Johnson's health message, Dr. Rouse said:

"There is great need for expanded health care service in the United States. Meeting this need requires devoting attention to all the elements involved in the supply of resources and manpower, the distribution of health care, and costs.

"The AMA supports private and governmental programs that help those who need help. Health care for all the people should be expanded in an orderly way so resources and needs are increased together and at comparable rates of growth.

"Government can and should support the construction and renovation of hospitals and extended care facilities, and together with the states and private sources, should promote a rapid increase in medical manpower.

"As for drug prices, we believe that every patient should be able to buy high quality prescription drugs at the lowest possible price. The way to accomplish this is to promote more effective price competition at the retail level, which will result in lower prescription drug prices for everyone. This should be the thrust of government programs—not price fixing for one group. Everyone should be encouraged to be more price conscious in buying prescription drugs. The physician should include both medical and price considerations in writing prescriptions and the patient should patronize that pharmacy that can furnish dependable service and the prescribed product at the lowest possible price . . .

"The President's message contains little essentially new. It concentrates again on pouring additional millions of dollars into a health care system that is already facing requirements well beyond what it can now meet.

"Government expenditures for health care should be moderated during this period of acute shortage to control rapidly rising cost. Government can be most helpful by controlling inflation and by providing tax deductions and credits for people purchasing health insurance . . . .

"The physicians of this country will welcome a genuine partnership in health, where the Federal government will sincerely and continually seek the advice and active collaboration of those whose special services lie in medical education and the planning and provision of superior quality medical care for all citizens."

* * *

The Board of Medicine of the National Academy of Sciences stated that the transplantation of human hearts still is in the experimental stage and proposed three guidelines for the procedure.

(Continued on Page 73)

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Aminophylline . . . . . 130 mg.
Phenobarbital, Caution: May be habit forming . . . 21 mg.
Ephedrine HCl . . . . . 16 mg.

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Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

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Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

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THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

FOUR-YEAR SCHOOL

From time to time comments appear in various news media that South Dakota's Medical School will be transformed into a four-year school. The official position of the School of Medicine is that there are, as yet, no specific plans to create a four-year medical school. Efforts are now being made to obtain a feasibility study to determine the best way to develop such a school so that it can adapt to the growing pressures to educate more health professionals, increase research capacity, and provide greater service to the state.

One plan has been proposed by Dr. Hayes and is being considered. This "university without walls" plan would establish clinical educational centers at various hospitals in the state to teach the 3rd and 4th year courses. However, this is only one of several plans which have been presented for consideration.

An unfortunate trend at this time would be to place so much emphasis on a four-year school that the present two-year school would be neglected. In reality, a four-year school is almost totally dependent on a strong, vigorous, progressive two year basic science program. We cannot hope to have one without the other. (See editorial this issue).

FRINGE BENEFITS

The South Dakota Medical School Endowment Association at its meeting on January 13, 1968 voted to pay one-half of the Blue Cross-Blue Shield premiums for each full time basic science faculty member who holds an established academic appointment and who is a member of the Medical School's insurance group. This move was made in recognition of the gross inadequacy of the fringe benefit policy of the University. Their contribution will begin with the July 1st quarterly premium. The Administrative Committee of the School of Medicine voted a resolution of appreciation to the Endowment Association for its support. The entire faculty takes this opportunity to extend their thanks to the Association for their very generous consideration.

MEDICAL LICENSURE

Presumably, the purpose of medical licensure is to protect the profession from incompetence of its members as well as to protect the public from incompetence in the profession. All states have examinations that must be passed for licensure and many states have reciprocity agreements with other states. South Dakota, for example, has some type of reciprocity agreement with 23 states which means that physicians licensed to practice in any one of almost **half** the states may also practice medicine in South Dakota. Why not make it **all** the states? Why not have some form of examination that would permit a competent physician to practice in any state? This would certainly eliminate a tremendous amount of administrative work and would eliminate the preparation of many individual exams which, in most cases, represents an enormous duplication of effort. South Dakota now recognizes the National Board exams which is a step in the right direction here. Since the burden of administrative work on any unit of government tends to increase, it is necessary and desirable to streamline procedures to make them more efficient and easier to administer. One step in this direction would be the use of some type of general medical examination accepted by all the states. The fact that some state examinations are rather poor in quality is all the more reason to effect a change.

The obvious objection to this kind of plan is that of abrogating states rights. In other words, each state feels it has the right to determine who may or may not practice medicine depending on the knowledge of medical sciences of

each candidate. Since medical science is based on factual scientific knowledge it transcends political and geographic boundaries and therefore should not be restricted or regulated on this basis. A coronary occlusion in Florida is essentially the same as it is in Nevada and the basic aspects of treating the disease are the same in both states. A practitioner either has the requisite knowledge to treat the disease or he doesn't. Hence the states right in this respect is largely an artificial one which appears to be expressed simply for the sake of expressing it. It behooves the members of the health professions to demonstrate their farsightedness and progressive spirit in adopting a more universal and reliable basis for medical licensure than now exists.

—CRG

(Continued from Page 71)

The Board said human cardiac transplantation should only be carried out in institutions in which these three criteria can be met:

1. The transplant teams should be highly skilled and have had extensive laboratory experience.
2. The work should be carefully planned, and the results should be rapidly communicated to others in the field.
3. Both the teams and the patients should be protected by "rigid safeguards."

* * *

A check is being made to determine how many alien physicians, dentists and "allied specialists" are now subject to draft laws. A new law for the first time makes aliens in the medical and dental professions subject to draft up to age of 35.

* * *

President Johnson asked Congress for $571.7 million more for medicaid for the 1968 fiscal year ending July 1, 1968.

The administration said the initial appropriation proved inadequate because of a complete lack of data and experience as to costs of such a program and a larger increase than expected in costs of hospital and other medical care.

(Continued from Page 59)

PROPRIETY OF AGREEMENT NOT TO PRACTICE IN DESCRIBED AREA FOR PRESCRIBED PERIOD

There is no ethical proscription against suggesting or entering into a reasonable agreement not to practice within a certain area for a certain time, if it is knowingly made and understood. Whether it is advisable as being in the best interest of the public is debatable. The suggestion was made by one of the members of the Law Department of the Association in an article entitled "Beware of Restrictive Covenants," in THE NEW PHYSICIAN, that perhaps such an agreement should not become operative until after one year and should expire after it has been in effect for a period of five or so years.

Ethically such agreements are not forbidden, but they should be entered into with caution.

* * *

USE OF PHYSICIAN'S NAME IN ADVERTISEMENT

A doctor should not lend his name to any product. Such action would adversely reflect on the dignity and honor of the profession.

"JOIN THE ASSOCIATION AND LEARN THE LATEST IN MEDICINE BUT I ALREADY KNOW EVERY THING."

In 1966 the Chairman of a Committee organized for the purpose of encouraging a doctor to settle in their west river town came to me for advice.

He and friends had traveled to Sioux Falls where they visited the headquarters of the South Dakota Medical Association to ask for help and to dramatize the fact that their community had no doctor.

Initially few people from the community had any idea the problem would not be solved quickly — some of their comments had been, "Why our town is a wonderful place to live." "We will furnish the young doctor with an office and hospital." "After all, aren't doctors morally obligated to give us care?" In fact there was more than a little bitterness when officials of the State Association gave the committee little encouragement.

As our conversation closed the man I was talking to said in utter dejection and in the sincerest tone I have ever heard,

"What are we to do?"

His question has haunted me, his plea is the plea of some 50,000 other citizens of South Dakota and within the next fifteen years the problem will reach crisis proportions.

In 1960, 9 General Practitioners located in South Dakota, in 1964, 7 started practice and in 1967, 10 entered General Practice, but only 9 of these men started practice in towns of less than 3,000. The average age of the GP's practicing in rural communities in South Dakota is now 54.

My grandparents came to Dakota territory in a covered wagon. Grandmother knew how to deliver a baby, make a mustard plaster and read tea leaves. Grandmother may have had occasional doubts about the correctness of her diagnostic and therapeutic powers but she never let it show. In every community there was such a person who could always be depended on in an emergency.

The Mid-wives of the eighteen-hundreds were followed by a group of country doctors. Most of them were men who had completed the equivalency of high school followed by a three year course in medicine. Graduates of these schools were taught the fundamentals of anatomy and were supervised at enough autopsies so that they knew what they were treating. There were literally hundreds of these men. It has been said they practiced with "a pill and a prayer." Many became very competent physicians and some very good surgeons. They actually got their training in the school of experience. The poor ones dropped out of the picture and the good ones prospered in the esteem of their fellow men. The horse and buggy doctor is now gone but before he left the scene he was instrumental in promoting reforms that raised the standards of medical care and made licensing requirements much more stringent. As a consequence men and women entering medical practice now are required to complete a formidable training program. Most are college graduates, have four years training in a class A Medical School and one year of internship. Many have had from 1 to 3 years of advanced training. Such men are trained to be able to diagnose and treat all types of illness and injuries. There are 509 doctors licensed and practicing in South Dakota. Nine of these doctors are not in active practice or are retired. 99 are Board certified specialists, 140 doctors are not Board certified but limit their practice to some specialty. This leaves only 261 doctors doing general practice in South Dakota. This group of men is expected to see all the emergencies and make the house calls for over seven hundred thousand people. They adminis-

ter to about 60 patients a day and work from 10 to 18 hours each day. When you ask any one of them why they do it, the answer is generally some variation of, **"Someone has to."**

Yes! Someone has to care for the sick and injured in the rural areas of South Dakota. **Who is it to be?**

Right or wrong there are few doctors entering practice in the rural communities. **What are we to do?** is the tragic plea of more and more people.

A majority of those needing help can travel to a trade center. Political Scientists tell us there are 12 cities in South Dakota that qualify for the title **complete shopping center.**

Wessington Springs is the center of a population group of 5,000. It is referred to as a full convenience center. It is approximately 50 miles from the nearest complete shopping center. The medical needs of this area are probably fairly typical of most rural communities.

Of each 100 patients who visit the doctor's office in Wessington Springs twenty-five are diagnostic problems. Fifty need periodic check ups, medication for respiratory troubles or treatment for infection. The diagnostic problems can best be handled in the larger centers. The people needing routine care can also safely travel to the trade center. (One of the problems now however is that Dakota's larger hospitals are overcrowded and under staffed. They should be enlarged and up-graded at once.)

The last twenty-five percent of our patients include the acute surgical problems, serious accidents, heart attacks, poisonings, mentally disturbed people and the old and infirm who would have real trouble getting to the Medical Center except by ambulance. (Senior Citizens Homes are meeting the needs of the elderly and infirm.)

The serious accidents, heart attacks, acute respiratory problems, poisonings etc. present the most formidable medical need in any community.

In the past twenty years the author has been called to the scene of every conceivable emergency, they have varied from the new born babe in the toilet bowl to multiple murder and suicide. In each case the doctor was expected to take charge, make decisions, calm hysterical relatives and more than once I have helped clean up the mess. Ideally a doctor should be at the scene of every medical emergency but it should be obvious that in many cases, emergency care could be given by especially trained technicians or nurses.

Now the heart of this article and any merit it may have rests in the suggestion, that rural communities select community action committees to develop efficient ambulance service staffed by a Medical Service Technician, who is well trained in the administration of first aid.

The ambulance call is to become the modern substitute for the doctor's house call. The American Red Cross has training courses for such people but their training should be augmented with actual experience on an ambulance or in a busy emergency room. Some type of training must be worked out. Such men will have to be licensed after completion of a recognized training program. The Medical Technicians must have good machinery to work with and their ambulances will need to be equipped with the best two way radio equipment.

In the larger centers there is no thought now of doctors being at the scene of an emergency. The time is imminent when the ambulance attendant will be in charge of medical emergencies in the rural communities also. The attendant must have immediate contact with a doctor and the emergency room at a hospital. We must not take this lightly, anyone from the richest to the poorest, from the most powerful to the weakest may be the victim of an emergency tomorrow. Your life may depend on an ambulance driver, and perhaps more important a well equipped and staffed emergency room at a hospital.

Actual studies that have been duplicated several times prove that more people die in emergency situations before they receive adequate medical care in rural communities than die when in need of emergency care in the city.

In the rural area every facility must be used:

Each area should have its own plan and its planning organization. Such an organization should include a representative of the governing body, the police, the fire department, the hospital and of course, the Medics.

Others who have made a start in providing emergency medical services have discovered:

1. That only 50% of the cost of maintaining an ambulance and attendant can be expected to come from paying patients so some means of subsidy must be provided.
2. Standards should be set up regarding the training and responsibilities of the ambulance driver. Such ordinances probably will be state wide in time and will include penalties if proper standards are not maintained.
3. Each ambulance should have a driver and attendant. The attendant can be a volunteer such as fireman or police officer.

4. There must be central dispatching. Each community must have a well publicized place to call. The American Telephone company now plans to make the number 911 available; nation wide, to use as a call number for emergency service.

In rural communities the same two way radio set up could be used by police, firemen and medics. A receiving and sending unit should be in each ambulance and each hospital emergency room.

The central dispatcher must be trained and something of a Psychologist. Time and again I have been called by someone hysterical shouting, "Dr. get right out here," and then have them hang up before it was possible to get any information about what or where the emergency was.

The person who answers the emergency call must be level headed and know the country, and better yet the people.

Finally there is no doubt that properly staffed and equipped emergency rooms in all hospitals will be a requirement for obtaining a hospital license in the future. Just as the ambulance is replacing the doctors house call the emergency room may replace the doctor's office.

Small communities can no longer afford the luxury of a completely equipped and staffed doctor's office, which is duplicated at the community hospital. For example, the doctor in Wessington Springs has always maintained a laboratory and hired a trained technician. The hospital also has a laboratory and x-ray. During the day the emergency room at the hospital stands vacant but when the doctor's office closes at 6:00 p.m. the emergency room becomes a doctor's office. Such duplication is unnecessary and expensive. The emergency room should be upgraded to include the best of facilities and services twenty-four hours a day. Nurses or technicians should be on hand at the emergency room to treat all uncomplicated illness and minor injuries including suturing of minor lacerations. This means that in rural communities where one or two doctors serve, the doctor's office facilities and out patient department of the hospital should be combined. Such a set up would make for efficiency and perhaps more important the doctor would be relieved of the technical and financial burden of maintaining an office. It might be a factor in encouraging young men to settle in rural communities.

In Summary:

The shortage of doctors in rural South Dakota is approaching crisis proportions.

The larger medical centers will be expected to care for increased number of patients but the hospitals in the larger towns must be enlarged and upgraded at once.

The well trained ambulance driver in a well equipped machine will replace the doctor's house call. He should be qualified to give emergency care until the patient can be transported to a medical center.

The emergency room of the rural hospital should be enlarged and staffed with nurses who will have authority to treat minor illnesses and do simple first aid including suturing. Such medical centers will take the pressure off the single doctor who is still attempting to tough it out in many rural communities.

It is just possible that an emergency room clinic set up, supervised and maintained by the community may encourage more young men to settle in rural areas.

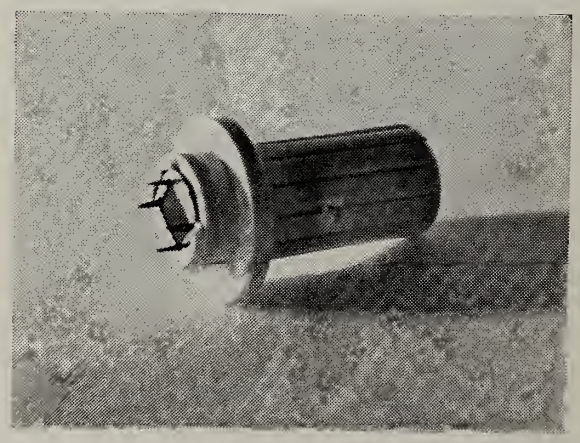
Roscoe E. Dean, M.D.

Wessington Springs,

South Dakota

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.



TUBERCULIN, TINE TEST (Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

Lederle

330—8/6135

THE SHOT IN THE DARK

E. H. Heinrichs, M.D.

Old beliefs die hard. For many years it was customary that any patient undergoing surgery had to get a cleansing enema the evening before. It is difficult to assess for us now what the reason was, but the idea to be clean inward and outward before a surgical intervention must have been fascinating. Hardly anyone believed even at that time that the bowels could be sterilized by that method. The tragic consequence of that myth was that some children became more dehydrated and consequently an increased surgical risk.

Another myth is very tenacious of life still today: The myth that the gluteal muscle is the thickest muscle of the body and therefore predestined for intramuscular injections. As any experienced girl-watcher can testify to, this is not so—as a matter of fact, the apparent muscle mass is to a large extent fat. Injections into the fat tissue, however, result in uncertain absorption rates. A large space underlying the buttocks is also occupied by important vessels and nerves, whose injuries prove disastrous. There is actually only a very small area safe for intramuscular injections.[1] "Among several disadvantages the danger of inadvertently injecting the sciatic nerve is the most in evidence. On Professor Grey Turner's authority, we recommend that this site be abandoned entirely."[2]

The pediatricians, long aware of the problems with gluteal injections, have discontinued to use this site routinely and prefer now the lateral thigh. The principles of proper injection in this and possibly other regions will be dealt with at a later time.

But it is now timely that also other disciplines recognize the limitations of intragluteal injections and instruct the nurses accordingly. (This may prove difficult as many of us have learned the technique from the nurses). The so called "outer upper quadrant of the buttock area" designates an area by far too large as not to endanger important structures. Specific injection damages are nerve injuries resulting in peroneal, tibial or even complete sciatic paralysis, either due to intra- or paraneural injection, toxic neuritis or subsequent scar formation.[3] Blood vessel injuries result in clot formation with or without skin sloughing, gangrene or intravenous injection of intramuscular medication or even transverse myelitis,[4] as the result of apparent retrograde injection into the peri-spinal vascular plexus.

The recommended area for safe intragluteal injections is much smaller as previously advocated. (See Addendum).

Two other points not mentioned previously may have contributed to many injection incidents: If a patient cannot be turned completely during the injection procedure as it happens especially with unconscious patients or those with fractured extremities, the buttocks cannot be exposed properly and therefore, miscalculations can occur. Also will it be impossible to inject strictly sagitally and the tip of the needle may be more medially than the skin penetration would indicate.

The second one is a more subjective one: A patient who has to receive many intramuscular injections, as for example antibiotics every four

hours, will not be very appreciative after two days of confinement to bedrest and not sleeping on his stomach as very few of us do. Since large amounts of drugs accumulate rapidly in a relatively small space, it makes absorption unsure and rotation of sites consequently mandatory.

A plea is therefore made that the gluteal site be not the site of choice for intramuscular injections. As a matter of fact, the buttocks should be used for injections only if so specified. And if the injections are done by nurses, they should be properly educated in the technique and be aware of the possible dangers.

If this is done, we will have happier patients, less complications and the "shot in the dark" will be a thing of the past.

Addendum

Description of the injection site in the area of the ventral gluteal muscle (von Hochstetter,[1] Hughes,[5] Hill[6]):

> The gluteal site to be used should be selected with the patient lying prone on a flat surface. The area may be outlined by locating the anterior iliac tubercle, placing the tip of the index finger on the tubercle and extending the middle finger tip along the crest of the ileum, both fingers spread as far as possible forming a triangle. The palm is placed over the trochanter area. The injection is made in the center of the triangle between the second and third fingers directing the needle perpendicular (90 degrees) to the table or bed in this space above the head of the trochanter.

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DRUG PRICES DOWN

Wholesale prescription drug prices have declined 14.1 percent during the past 17 years. While medical costs, on the whole, are going up, prescription drugs actually are taking less of the consumer's health care dollar.

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SOCIAL PLANNING AND OUR MEDICAL SCHOOLS

Medical schools are in danger of becoming service organizations instead of gatherings of gifted persons living in an atmosphere of freedom, independence, and emotional quiet conducive to good pedagogy and research. They are expected to (i) teach medical students, (ii) train paramedical students, (iii) do the major part of medical research, (iv) conduct large programs of postgraduate education, (v) service many governmental committees and voluntary health organizations, and (vi) practice medicine.

Under the terms of the Heart Disease, Cancer, and Stroke program recently established by Congress, the schools are now being asked to take responsibility for the health of the community. In addition, some commentators have called for leadership from the medical schools on such urgent social problems as the control of population and of environmental pollution, abolishment of poverty by "the best possible medical care," creation of psychological environments in which human beings can develop and prosper, cost and use of drugs and cosmetics, and the foods we eat.

In the face of such demands medical school faculties and interested laymen must define what kind of schools they want and what kind society needs. A practical institution for the training of practitioners and the delivery of "health care" to the community is one extreme; the other is an institution little concerned with its social responsibilities. I doubt that we want either. Nor do we want a mere average of the two — that is, an organization excellent in neither sense. Without going to either extreme, we can have schools that preserve an atmosphere of scholarship, critical and skeptical, and time enough to think, but only if we are careful to understand, and say, what we want in a medical school. To an important degree the future physician depends on the imprinting he receives during his medical school experience.

Defining the function of medical schools, however, does not solve the problem of delivery of medical care, although it may insure that practitioners will be better able to undertake it. The dean of Cornell University Medical School, John Deitrick, has made a wise suggestion that community hospitals, after being upgraded, take over most of the responsibilities of health care now being foisted onto the medical schools. Some of these institutions have already grown in stature, and many now have structures similar to those of the medical schools and centers. They are efficiently performing teaching duties as well as providing specialty services and emergency-room care. Health education programs for the community are also possible.

Besides the great potential of the community hospitals there is that of group practices and clinics in many cases entirely able to assume the responsibilities I have been discussing. Too often planners seem to be unaware of the fact that private practice is being powerfully supplemented by group practice and clinics. Training programs for interns and specialists of groups not affiliated with a university are at least as good as those at most medical schools. They provide a way, which is already at hand, for

dealing with problems that seem to have grown so large in the imaginations of many as to provoke legislative and fiscal panic.

I am hoping that the "Ivory Tower" aspect of medical schools will not be destroyed and suggest that the necessary community, social, and medical functions can better be assumed by other existing agencies. I believe that it was a mistake to have saddled the medical schools with becoming the core of leadership for the Heart Disease, Cancer, and Stroke Regional Program. There is little to suggest that they are prepared for such responsibilities, nor should they be.

—Irvine H. Page, **Cleveland Clinic**

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LETTERS TO EDITOR

Richard C. Erickson
S. D. State Medical Association
711 North Lake Avenue
Sioux Falls, S. D. 57104
Sirs:

The 13th Annual Science Fair is now history, and the banner of the Western South Dakota event will be carried to the International Fair in Detroit by David Rieger, a senior at Rapid City High School. Dave has worked several years on his project "Light Factors in Relation to Photosynthesis," and we feel that he has a good chance to capture additional honors at the international meet.

The exhibits on both the junior and senior high levels this year demonstrated a continuing growth in interest in science on behalf of the students. The Science Fair serves this growth of interest by encouraging study and research and by providing a healthy means of scholastic competition. The Fair could not be successful, however, without contributions such as yours.

On behalf of the students and teachers participating, and the college science fair committee, I wish to extend a sincere thank you for the support shown the Western South Dakota Science Fair.

Sincerely,
Duane A. Roehrick, Chairman
Science Fair Committee

SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY
Rapid City, South Dakota

ONAMIA, MINNESOTA, will be needing one or two general practitioners to take over well established practice which will be vacated July 15, 1968. Present doctor leaving area. Beautiful 31 bed general hospital; 40 bed C&NC unit attached. Almost new clinic building available with dental suite occupied. 3 doctors from nearby towns on staff. Area population near 5000 permanent residents; eight to ten thousand summer lake residents and tourists. Hospital and town located on shores of Onamia Lake; famous Mille Lacs Lake only two miles distance. Many other desirable lakes for year around living right close by. Town has 3 industries, Crosier Seminary, good schools, churches of different faiths. Two golf courses in area. Excellent community; healthy place to live; fishing, hunting, summer and winter sports. Practice has excellent potential. Away from the madding crowd, yet just a short distance to Minneapolis, St. Cloud and Brainerd. Make the move to Onamia and Mille Lacs Lake where living is fun — where you'll have samething to shout about. Contact M. E. Engstrom, Asst. Administrator, Community Mercy Hospital, Onamia, Minnesota 56359. Phone (612) 532-3154.

This is your

MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

The best of self-made people had a little help; the worst of them had a lot.

Robert Hayes, M.D., was the guest lecturer at the Clay County Feeders Association Dr. Hayes illustrated and spoke on his experiences with a medical team in Vietnam.

* * *

Dr. and **Mrs. Rodney Stoltz,** Watertown, appeared before the Grant County P.T.A. to present a program on venereal disease.

* * *

The S. D. State Society of Radiologic Technologists held its 20th Annual Convention at the Guest House Motel in Watertown, April 19-20. **G. R. Bartron, M.D.** and **John J. Stransky, M.D.** addressed the group.

* * *

J. H. DeGeest, M.D., Miller, was one of 1900 physicians to attend the annual New Orleans Graduate Medical Assembly held in New Orleans.

The 19th Annual Pastoral Counseling Institute was held in Vermillion with **Dr. E. S. Watson,** Brookings, acting as its moderator.

* * *

The Huron United Fund has elected **Clifford Lardinois, M.D.,** as its President.

* * *

William Taylor, M.D., was the guest speaker at the Zonta Club's meeting in Aberdeen.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

The Bridgewater P.T.A. recently hosted **Dr. I. Kaufman,** as their guest speaker. Dr. Kaufman spoke on Mental and Physical Effects T.V. has on our children.

* * *

W. B. Odland, M.D., Huron, addressed an audiometric workshop held at the School for the Deaf in Sioux Falls.

* * *

The Business and Professional women of Mobridge heard **Dr. James Ryan** speak at their regularly scheduled meeting.

* * *

John P. McCann, M.D., Parkston, presented slides and spoke on his experiences in Vietnam, at a meeting of the Douglas County Farm Bureau.

* * *

Drs. C. F. Binder and **L. W. Holland** received a special recognition award for a combined total of 36 years of service to the Community Bailey Hospital in Chamberlain.

* * *

Leo W. Graff, M.D., physician since 1930, was designated as Britton Citizen of the Year for 1967.

Edgemont Church and Civic organizations held a reception in honor of **Dr. William Renforth** and the hospital staff.

* * *

The Yankton Kiwanis Club heard **Dr. Duane B. Reaney** explain some of the symptoms of cardiac distress.

* * *

Dr. Charles Roberts, Jr., president of the Brookings School Board, has announced his intention to seek re-election to the Board.

* * *

Dr. Brooks Ranney presented the Film "A Quarter of a Million Teenagers" to 600 Students at the Yankton Senior High.

* * *

David Buchanan, M.D., Huron, has been elected to the Board of Directors of the Central South Dakota Mental Health Center.

Joseph Kass, M.D., Rosholt, presented a film and lecture on "Emergency Childbirth" for the local Medical Self Help Course.

* * *

Dr. E. H. Heinrichs spoke to the Watertown Kiwanis Club regarding the installation of a Cardiac Care Unit in Watertown.

* * *

W. F. Stanage, M.D., Yankton, has been selected by the American Academy of Pediatrics to assist in the evaluation of the medical aspects of the Head Start Programs.

* * *

The University of South Dakota School of Medicine has appointed Kenneth L. Bailey, Assistant Professor of Pharmacology and M. Jack McBroom, Assistant Professor of Physiology.

The Sioux Falls Sales and Marketing Executives heard **Dr. Roy C. Knowles** address their group on "One View of the Meaning of Work."

* * *

Drs. Karl H. Kossee and **J. A. Eckrich,** both of Aberdeen, have received certification by the American Board of Urology.

* * *

James Larson, M.D., Watertown, spoke on tuberculosis at a meeting of the St. Ann's Auxiliary.

* * *

E. F. Kalda, M.D., Platte, has been instructing a local Medical Self Help Course on Infant and Child Care and Emergency Childbirth.

* * *

Dr. L. E. Savage spoke on recent advances in the area of cardiovascular surgery at the Yankton Rotary Club.

Five of the participants in Augustana College symposium on April 19, 20, 1968, on the computer applications to medicine relax between sessions. Left to right are Dr. S. G. Froiland, chairman of the Augustana division of natural science; Dr. Eugene Johnson, director of the Bio-medical Data Processing Unit, University of Minnesota; Dr. Milton Mutch, Jr., Sioux Falls physician; Dr. Paul Strandford, director of the chemical laboratory at the University of Minnesota Hospital; and Dr. John Kendall, vice president for academic affairs at Augustana.

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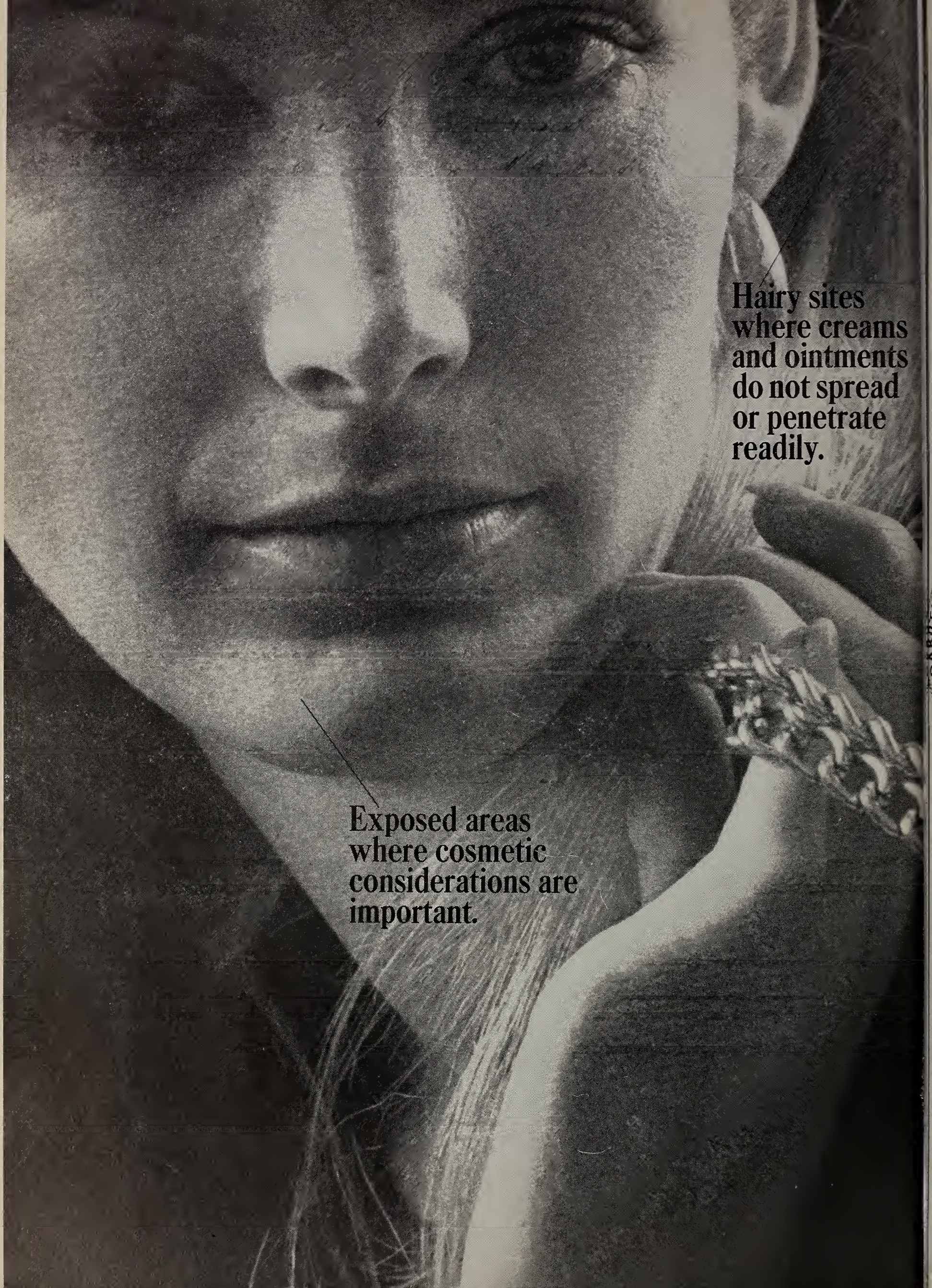
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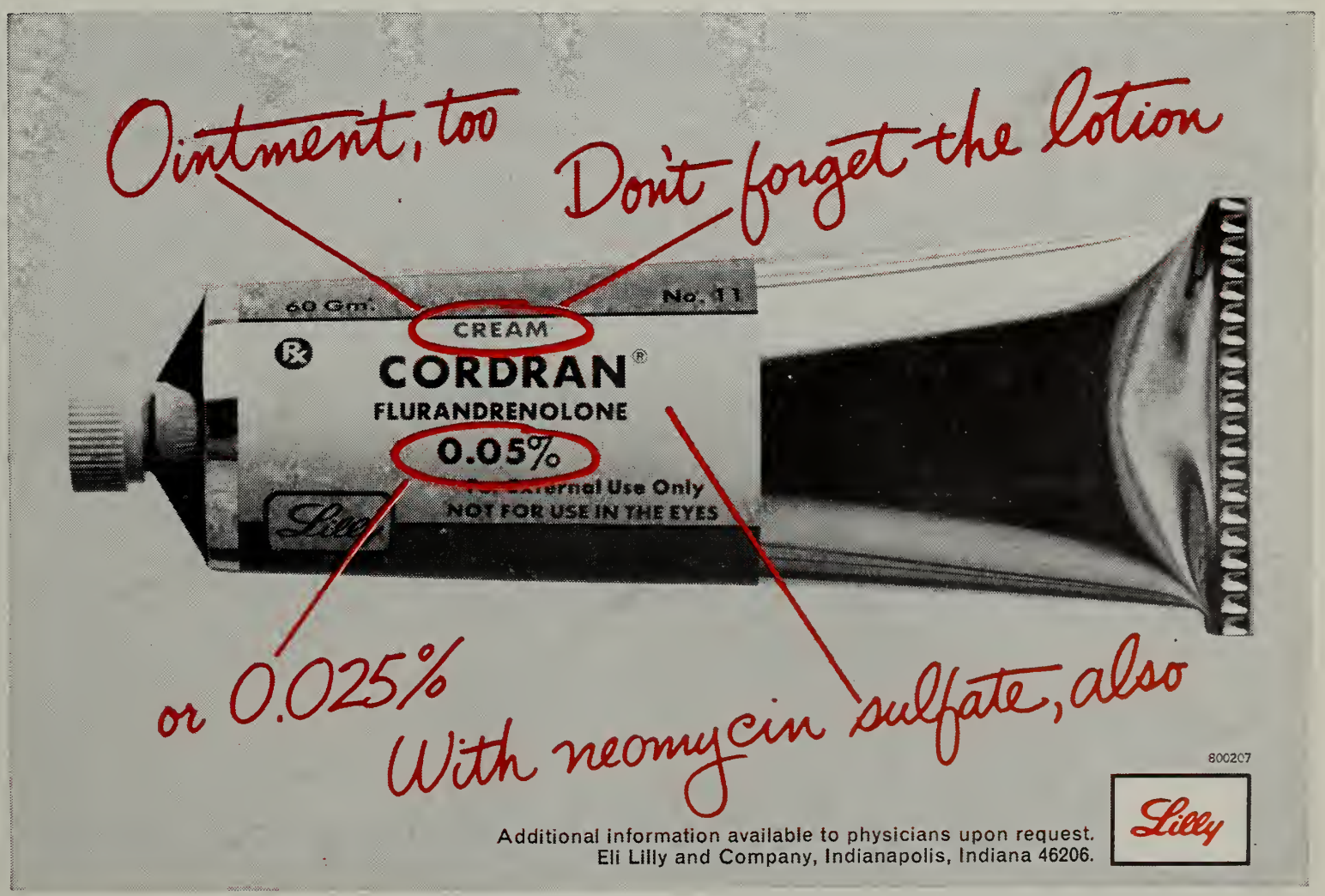

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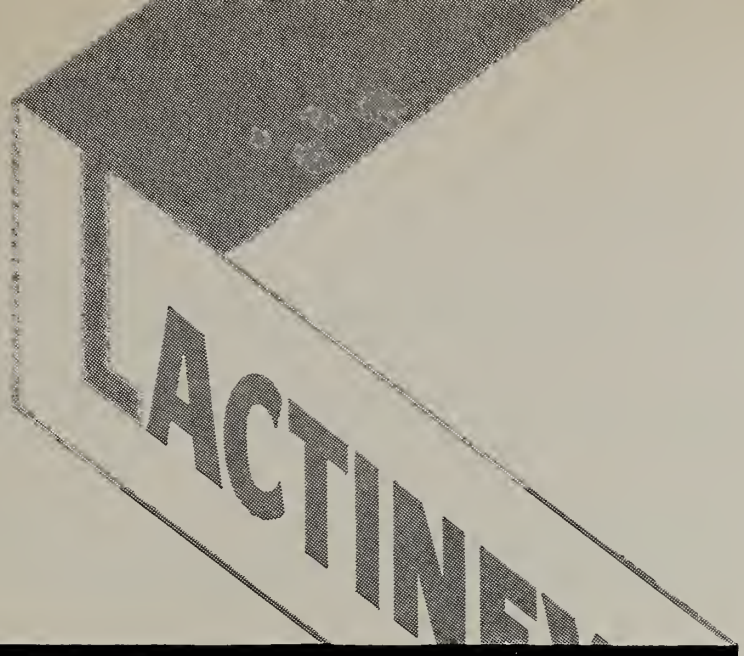

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THE MEDICAL DATA SCREEN
An Adjunct for the Diagnosis of 100 Common Diseases

Keeve Brodman, M.D. and Leo S. Goldstein, Ph.D., New York

This communication describes a method that aids physicians in the rapid diagnosis of 100 common diseases, along with a study of its use in an industrial medical department and in the private practice of medicine.

The utility of the method lies in the assistance it affords to medical departments with missions that include the prevention and control of disease in large numbers of employees; and to practitioners whose case loads compel them to ration their time.

The method reported here, called the Medical Data Screen (MDS), is a computer-aided approach to providing the physician with a large body of information, otherwise not readily obtainable, about patients' comprehensive symptoms.

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Submitted for publication Oct. 20, 1966; accepted Jan. 25, 1967.
From the Department of Medicine, New York Hospital-Cornell Medical Center (Dr. Brodman) and the Research Division, Medata Foundation (Dr. Goldstein), New York.
Presented at the fourth postgraduate course in occupational medicine, "Newer Approaches to Health Examinations," Department of Preventive Medicine, the Ohio State University College of Medicine, Columbus, July 13-15, 1966.
Reprint requests to 525 E. 68th St., New York 10021 (Dr. Brodman).

Method

In the operation of the MDS, a patient reports his symptoms by answering questions on the Medical Data Index-Health Questionnaire (MDI). This questionnaire (available upon request to the author), a descendant of the Cornell Medical Index,[1, 2] consists of 150 medical questions stated in informal language and designed to be understood by people with a reading knowledge of simple English. It is entirely self-administering, with 10 to 15 minutes generally being the time required for completion of the form. The printed directions instructing the patient to circle the "Yes" or "No" after each question are easily followed. MDI's for men and women are identical except for eight questions about the genital system.

The data developed on the MDI are processed for analysis by computer. In the analysis, the patient's symptoms are matched (age-corrected) with the symptoms of other patients of the same sex who were diagnosed by physicians as having any of 100 common diseases. The basis for the matching and the computer-programming have been described at length elsewhere.[3-6]

The MDS establishes for each patient, then, a listing of diseases for which the patient claimed significant complexes of symptoms.

It should be noted here that the MDS is essentially a laboratory procedure, and, as does the

report of any laboratory examination, the MDS report requires evaluation by the physician caring for the patient. An MDS report informs a physician that a patient has complexes of symptoms commonly found in the diseases named; it remains then for the physician to determine why the patient claimed these symptoms.

In interpreting this report, the physician will recognize that a patient claimed each symptom complex for any of the four following reasons:

1. The patient has the disease named.
2. The patient has a closely related disease which produced a constellation of symptoms resembling those usually found in the disease named.
3. The patient has an emotional disturbance with complaints similar to those found in the disease named.
4. The reason may be obscure, as is occasionally the case. It may be, for example, as happens in atypical cases, that the reference data do not apply to a particular patient.

In all instances the physician decides which of the reasons applies by interpreting the MDS report in the context of all the data concerning the patient which he has available both from the report and from all other sources. Some of these other sources may be an interrogation of the patient, physical examinations, other laboratory examinations, opinions of consultants, or the patient's family, social, or work history.

Until the presence of the diseases identified by the MDS is confirmed, this list of diseases represents presumptive and not proven diagnoses. The list indicates where further investigations may be fruitful and serves to direct attention to areas of probable disease.

The 100 diseases of the MDS method listed below are those that physicians had diagnosed most frequently in the outpatient departments of the New York Hospital during the years 1948 through 1949 and 1956 through 1958. The three-digit numerical code is from the International Classification of Diseases and the alphabetic character identifies the organ system diseased.

Code	Disease
	Eye
A370	Conjunctivitis
A380	Refractive error
A384	Strabismus
A385	Cataract
A387	Glaucoma
	Ear
B390	Otitis externa
B391,2	Otitis media
B398	Deafness
	Buccal Cavity
C210	Benign buccal neoplasm
C530	Dental caries
C531,2	Disorder support of teeth
C533	Disorder of occlusion
	Respiratory System
D162,3	Malignant neoplasm of lung
D240	Hay fever
D241	Asthma
D470,1,2,3,4,5	Acute upper respiratory infection
D502	Chronic bronchitis
D510	Hypertrophy of tonsils
D512	Chronic pharyngitis
D513	Chronic sinusitis
D514	Deflected nasal septum
D515	Nasal polyp
	Circulatory System
E410,1,2	Chronic rheumatic heart disease
E420	Arteriosclerotic heart disease
E433	Functional disease of heart
E440	Hypertension with heart disease
E444	Hypertension
E450	General arteriosclerosis
E453	Peripheral vascular disease
	Digestive System
F151	Malignant neoplasm of stomach
F153,4	Malignant neoplasm of large intestine
F540	Ulcer of stomach
F541	Ulcer of duodenum
F544	Disorder function of stomach
F572	Chronic enteritis
F573	Functional disorder of intestines
F574	Anal fissure
F581	Cirrhosis of liver
F584	Cholelithiasis
	Urinary System
G600	Infection of kidney
G602	Calculi of kidney
G605	Cystitis
	Male Genital Organs
H610	Hyperplasia of prostate
H611	Prostatitis
H613	Hydrocele
H614	Orchitis
	Female Genital Organs
I170	Malignant neoplasm of breast
I213	Benign neoplasm of breast
I214	Uterine fibromyoma
I215	Other benign neoplasm of uterus
I620	Chronic cystic disease of breast
I630	Infective disease of uterus
I631	Uterovaginal prolapse
I634	Disorders of menstruation
I635	Menopausal symptoms

	Bones and Organs of Movement
J722	Rheumatoid arthritis
J723	Osteo-arthritis
J735	Displacement of intervertebral disc
J741	Synovitis
J745	Curvature of spine
	Skin and Cellular Tissue
K131	Dermatophytosis
K190,1	Malignant melanoma
K220	Benign melanoma
K221	Pilonidal cyst
K222	Benign neoplasm of skin
K226	Lipoma
K228	Hemangioma
K690	Boil
K691	Cellulitis of finger or toe
K696	Infectious wart
K700	Seborrheic dermatitis
K701	Eczema
K705	Erythematous condition
K706	Psoriasis
K708	Pruritus
K713	Disease of hair
K714	Disease of sebaceous glands
	Nervous System
L353	Epilepsy
L354	Migraine
L791	Headache
	Miscellaneous Diseases
M020,8	Syphilis
M030	Gonorrhea
M250	Simple goiter
M251	Nodular goiter
M252	Thyrotoxicosis
M253	Myxedema
M260	Diabetes mellitus
M287	Obesity
M290,1,2,3	Anemia
M322	Use of alcohol
M460	Varicose veins
M461	Hemorrhoids
M463	Phlebitis
M560	Hernia
	Psychoneurotic Disorders
N310	Anxiety reaction
N311	Hysterical reaction
N314	Neurotic-depressive reaction
N315	Somatization reaction, circulatory
N316	Somatization reaction, digestive
N318	Psychoneurotic disorder mixed

For the study reported here, 115 New York city employees of the Home Life Insurance Company completed the MDI questionnaire. These industrial employees were studied in the course of a special firm-wide examination, and almost all are clerical or supervisory. About half (52%) are men, with average ages of 41 years for men and 38 years for women. The medical staff consists of two physicians, and the medical records of the employees were made available for this study.

Data on two other groups of New York city patients, both discussed extensively elsewhere,[7] are offered for purposes of comparison. These groups consist of 208 office patients under the care of four internists of the New York Hospital-Cornell Medical Center staff and 44 office patients of a New York city general practitioner. Average ages of these groups are somewhat greater than those of the industrial patients.

After each physician had examined his patients and recorded all findings in his records, the diagnoses he made were compared to the disease complexes identified by the MDS method. In each case information was noted as to whether the physician caring for the patient had diagnosed the disease identified by the MDS method (A), had diagnosed a disease in the same organ system and differential to the disease identified (B), had no information on whether or not the disease identified was present (C), or had evidence from his examinations of the patient that neither this disease nor any other closely related disease was present (D). Also obtained were the names of diseases that the physician had diagnosed and that the method had not identified (E if the disease was one of the 100 and F if it was not).

Results

Table 1 gives the average number of diseases per patient identified by the MDS method and diagnosed by the three categories of physicians.

The ostensibly healthy and relatively young industrial employees had an average of 1.1 diseases diagnosed for them by the physicians examining them; in comparison, the internists diagnosed an average of 2.9 diseases per patient, and the general practitioner 2.4 diseases.

Similar differences in findings developed for the average number of diseases per patient identified by the MDS method. The complaints made on the questionnaire were significant for 1.7 diseases per industrial employee, as against 3.8 diseases per patient of the internists and 5.7 diseases per patient of the general practitioner.

Table 1. — Average Numbers of Diseases* per Patient, by Type of Physicians Caring for Patient

	Symbol	Type of Physician Caring for Patient		
		Industrial Physician	General Practitioner[7]	Internist[7]
All diseases identified by MDS method	A+B+C+D	1.7	5.7	3.8
All diseases diagnosed by physician	A+E+F	1.1	2.4	2.9
Diseases both identified and diagnosed	A	0.8	1.7	1.7
Diseases only identified by MDS				
Differential to diagnosed diseases	B	0.2	1.5	1.1
Presence unknown to physician	C	0.7	2.4	0.4
Known by physician not to be present	D	0.1	0	0.5
Diseases only diagnosed by physician				
100 diseases of MDS	E	0.3	0.7	0.7
Other diseases	F	0.1	0	0.5
Number of cases		117	44	208

* Psychoneurosis not considered in this analysis.

It is to be expected that patients seeking medical opinion or treatment or both will have, on the average, more diseases than those who are examined routinely; a factor, however, that may account for part of the difference between employees and patients, both in the number of diseases diagnosed by physicians and identified by the MDS, may be a reluctance on the part of some employees to tell all of their symptoms to the industrial physicians or note them on the questionnaire.

Table 1 provides, in addition, break-downs for each category of physician of the number of diseases both diagnosed and identified, those diagnosed but not identified, and those identified but not diagnosed.

Table 2 gives ratios for the data of Table 1. For the population studied of all of the diseases diagnosed by the industrial physicians, 95% are of the 100 included in the MDS method, (A + E) (A + E + F). The comparable figures are almost 100% for the practitioners and 83% for the internists. These proportions indicate the wide applicability of the method for patients studied in private practice and for employees doing work that involves no unusual industrial hazard.

Of all of the diseases diagnosed by the industrial physicians, about 7 out of 10 were identified by the MDS method, A/(A + E + F). The proportion was similar for the practitioner, and was about six out of ten for the internists. For all three classes of physicians, about seven out of ten diseases of the MDS 100 diagnosed by physicians were identified by the method, A/(A + E).

Table 3 consists of three parts dealing with findings for individual patients rather than for groupings of patients. As shown in part 1, relatively few of the patients of the industrial physicians had more than one diagnosis made for them; the proportion of patients for whom these physicians and MDS method were in complete agreement is quite high. Both the general practitioner and the screen, and the internists and the screen, jointly identified more than two diseases in at least one quarter of patients.

Part 2 of the table shows that the internists in 0.8 of the cases and the industrial physicians in 0.6 of the cases had knowledge of every disease identified by the screen. This held for 0.3 of the patients of the general practitioner.

Part 3 of the table shows that there were very few false-positives for either the patients of the industrial physicians or the general practitioner. There were fewer than one fourth of patients of the internists who had diseases identified by MDS which were known by the internists not to be present.

All diseases considered in Tables 1, 2, and 3 are organic; for the six psychoneurotic disorders dealt with by the MDS, the method made less effective identification; its overall identification was about 50%.

The physicians reported on here were selected to be representative of medical college internists, general practitioners, and medium sized industrial organizations, but, since the number of physicians studied is small, results are not necessarily typical of other samples.

Table 2. — Ratios of Diseases* per Patient, by Type of Physician Caring for Patient

	Symbol	Type of Physician Caring for Patient		
		Industrial Physician	General Practitioner	Internist
Diseases diagnosed by physician				
% of all that are of 100	(A+E)/(A+E+F)	95	100	83
% of all identified by MDS	A/(A+E+F)	70	71	59
% of 100 identified by MDS	A/(A+E)	73	71	71
Diseases identified by MDS				
% presence unknown to physician	C/(A+B+C+D)	39	42	11
% known not to be present	D/(A+B+C+D)	5	0	14
No. of cases		117	44	208

* Psychoneurosis not considered in this analysis

Table 3. — Cumulative Percent Distribution, By Physician or Disease

Diseases per Patient	Industrial Physicians	General Practitioners	Internists
Jointly Identified by MDS and Diagnosed by Physician			
0	59	22.7	37
1	85.5	56.8	61.5
2	96	75	73.6
3	96.6	84.1	83.2
4	99.1	93.2	88.5
5	99.1	100	91.4
6	99.1	-----	97.1
7 or more	100	-----	100
No. of patients	117	44	208
Identified by MDS, Presence Unknown to Physician			
0	66.7	29.6	78.9
1	83.8	47.7	88.9
2	94.9	61.4	94.7
3	96.6	77.3	98.1
4	96.6	84.1	98.6
5	99.1	88.6	98.6
6	100	93.2	100
7 or more	-----	100	
No. of patients	117	44	208
Identified by MDS, Known by Physician not to be Present			
0	94	97.7	77.9
1	99.1	100	87.5
2	100	-----	94.2
3	-----	-----	98.1
4	-----	-----	98.1
5	-----	-----	98.6
6	-----	-----	99.5
7 or more	-----	-----	100
No. of patients	117	44	208

Comment

Industrial physicians recognize that the total health of a person often determines not only his well-being and happiness but also the extent to which he carries out his occupational duties. The total health of an individual can be evaluated adequately only if the physician knows more about him than merely the disease associated with a complaint that occasionally leads him to seek medical attention; as a consequence, physicians and medical departments have instituted the periodic health examination in an attempt to understand the individual's total medical problem.

Industrial or other institutional medical departments, however, under limitations in staff and facilities, are hard pressed to carry out the comprehensive investigations that detect early evidence of disease. Such investigations usually require that an experienced physician spend half an hour with each patient merely to elicit a comprehensive medical and psychiatric history.

The need of the medical department is for some simple and rapid multiple screening method that identifies a large majority of the people with any common disease. It is an objective of the MDS to meet this need.

It is clear from the results given above that the MDS gives valid information on the total medical status of unselected patients in relation to 100 common diseases. Selection of patients for pertinent examination may be based effectively on this information.

The MDS method attempts a difficult task — namely, to assign unselected patients to any of 100 diverse disease categories, with the sole basis for assignment being responses to a self-administered questionnaire. In the instances described above, it performed this task with a large proportion of correct assignments and a low incidence of false-positive assignments. It is not similar in purpose or in effectiveness to other computer methods which attempt to identify one of a few related diseases in patients preselected for these diseases and where in-put data are obtained from preselected physical and laboratory examinations.

The MDS appears to be a useful medical procedure because it supplies information about the whole patient and does so quickly, inexpensively, and with little burden to the physician or patient. It is an adjunct to the physician in his care of patients. Results above show that it offers information useful in the general practice of medicine and in industrial situations. It can be especially useful when large numbers of patients are to be examined and only a limited number of physicians are available to make the examinations.

The MDS method has some obvious limitations. It carries out routine tasks of matching patients' symptoms with those typically found in 100 common diseases and so is essentially a laboratory procedure. This screening method does not rate the clinical importance for the patient of each complex identified, nor does it rate the risk of not recognizing other unidentified disease complexes. Value judgments like these can be trusted only to a physician; they cannot be assigned safely to any computer system now in existence.

The medical profession generally recognizes that final responsibility for all diagnostic decisions belongs to the physician and that laboratory procedures merely bring him information that must be evaluated. This is true also for the MDS method, even though its output is a list of named diseases.

The MDS by supplying a systematized review of the present status of the patient's symptom complexes, serves as a reminder to the physician to correct the minor or major discomforts suffered by the patient, as well as the ailment for which he consults the physician. These other discomforts are frequently not reported by the patient until a detailed review of systems is elicited.

Because the MDS method analyzes symptoms as they are reported by the patient, it does not detect evidences of disease that can be identified with confidence only through physical examination or special laboratory procedures. Further, although the MDS effectively identifies diseases, it cannot do so when the patient does not report his symptoms, is asymptomatic, or reports symptoms differing markedly from those usually found in the disease. It is for these reasons that the MDS method does not identify every common disease of every patient.

Summary

The Medical Data Screen (MDS) aids the physician in the diagnosis of 100 common diseases. It uses a questionnaire to collect the patient's history and a computer to analyze the reported symptoms. In this reported study, the method identified over 70% of these diseases in employees of an insurance firm; it has been shown previously to have identified like proportions among private patients of internists and of a general practitioner. The MDS method is essentially a laboratory procedure that brings to the medical profession a type and volume of information about the whole patient which is not otherwise readily available. Some of the advantages of the method include the wide applicability of the comprehensive information it develops, the relevance of this information to the medical and psychiatric status of patients, the high validity of the information, the ease with which it is obtained, and the speed of the method.

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STATUS EPILEPTICUS: A MEDICAL EMERGENCY

by
Samuel Rosa, B.A., M.D.
Staff Physician
Redfield State Hospital and School
Redfield, South Dakota

Because epilepsy affects other members of the animal kingdom, it can probably be said that its history is older than man himself.

The term epilepsy derives from the Greek "epilepsia," seizure, the "falling sickness," to take besides, seize, attack. The person was supposedly "seized" by the capricious gods and this led the Romans and others to label epilepsy the "sacred disease."

Hippocrates, the great physician, is credited with the first study of epilepsy about 400 B.C.

According to the New Testament (St. Luke 9:39) epilepsy was regarded as a form of demonic possession. The following passage evidences this: "And lo, a spirit taketh him and he suddenly cried out and it teareth him that he foameth again, and bruising him hardly departed from him."[1]

Multiple and varied factors and situations can precipitate an epileptic seizure, for example, emotional disturbance, excitement, fear, frustration, tension, anxiety, menstruation, fever, unfavorable environment, sensory precipitation (also called reflex epilepsy) such as may occur in response to tactile, visual or startle, reading, or photic stimulation: such as T.V. watching.

Our interest in this presentation is the recognition and management of status epilepticus, therefore, let's not concern ourselves with the classification of epileptic convulsions in general but limit our discussion to the most serious epileptic episode: the status epilepticus.

By definition, status epilepticus is a condition in which grand mal seizures follow one another with no intervening periods of consciousness.

Status epilepticus should always be considered a medical emergency which requires urgent and specific therapeutic measures since if the condition persists the patient may sink deeper and deeper into coma, become dehydrated and exhausted with death ensuing.

We have almost 1200 institutionalized mentally retarded children and adults at Redfield State Hospital and School. Of these, 225 have been diagnosed as epileptics. In an average year we may see from 20 to 25 status epilepticus in the Institution.

PRECIPITATING FACTORS

Disregarding the sudden withdrawal of anticonvulsants, notably phenobarbital which may intensify seizures and cause status epilepticus, it is probably impossible to establish precipitating factors of status epilepticus, since by definition this condition is only a more serious type grand mal convulsion. The criterion being that the patient must be an epileptic and that status is a variant convulsive phenomenon. Yet I have often wondered why some patients develop status epilepticus and others not. And why some patients seem more inclined than others to go into status epilepticus. By observing some of our patients I have thought that perhaps under certain circumstances an epileptic may "work himself up" to a status and that this might be correlated to his personality. Let me illustrate with two recent situations:

Last Christmas Eve, I was called to one of the wards to see a patient, (white male, 48 years old, I.Q. 60, well-known epileptic) who was "acting

strange." The attendant said that he had seen many convulsions but that this did not look like one. That the patient was not "shaking," frothing about the mouth or unconscious. I went to the ward and found the patient in bed, fully dressed and talking. A quick evaluation failed to reveal any neurological deficit. Pupils reacted to light and accommodation, reflexes were normal, skin moisture, texture, temperature and color were within normal limits. Patient was oriented. I asked him to sit up in bed which he did promptly and we talked mainly about his job on the Institution Farm, the many years gone since he was admitted, and his old friends who were no longer here. He seemed a bit confused and I wondered if he was having a psychomotor component. He seemed well otherwise. One thing I noticed was that the patient kept repeating that once a year he got a "hard one" referring to a "hard seizure." He insisted that he was well now and everything was fine. The thought that once a year he got a "hard" seizure was disturbing the patient and preoccupying me. Therefore, without further delay, I decided to admit the patient to the hospital unit. It turned out to be a wise decision because very soon after he was admitted to the hospital I was called again and found the patient in frank status epilepticus, with extreme cyanosis, respiratory distress, profuse diaphoresis and a complication: dentures and he was choking on a wad of chewing tobacco. That Christmas Eve was unforgettable. As unforgettable as another afternoon a few weeks later.

I was called because a 15 year old boy, I.Q. 70 was having convulsions. I rushed to the ward and found the boy in a wheelchair fully awake and responding to stimuli. The only clue to a recent seizure, if he had had one, was that his skin and clothes were very wet due to, I assumed, seizure diaphoresis. He responded with excellent orientation to my questions. It was reported that during the afternoon, the staff dentist had extracted an impacted molar. I checked the cavity, it was not bleeding and there were no signs of a starting infection. The patient's temperature was 100 degrees F. rectally. I gave him 600,000 units Duracillin and gr. 2 Sodium Phenobarbital I.M., gave him some orange juice and kept him under observation for two hours. After a while the patient was joking, laughing and feeling well. I returned him to his ward and left word to keep close watch over him and call me immediately if anything went wrong. This the attendant did promptly four hours later. When I saw the patient again he was in a status epilepticus, comatose, frothing at the mouth, choking, cyanotic and convulsing terribly. After treatment and when he had recovered a few hours later, he told the nurse that he had been terribly afraid when the tooth was extracted.

In these two patients there were common denominators: both were mildly retarded and both had been under the stress of a high degree of fear before they went into status epilepticus. Their personality was in a way similar. Was this the underlying factor which precipitated the status? These are not the only two cases which seem to obey these precipitating factors, others seem to have been in similar situations as the ones mentioned above before status epilepticus occurred.

I should point out that these two patients are otherwise therapeutically well-controlled epileptics and very seldom have seizures during the year.

MANAGEMENT

The most effective and safest method of treating status epilepticus therapeutically is with the use of phenobarbital and paraldehyde. Livingston uses one large dose of phenobarbital subcutaneously: 320 mg over 5 years of age and paraldehyde by intramuscular injection in dosage of 1 cc per year of age. The dosage of paraldehyde not to exceed 5 cc regardless of age of patient. If the seizures are of prolonged duration and are not controlled by the administration of phenobarbital and paraldehyde the latter may be administered in the same dosage but not sooner than one hour after initial injection. Phenobarbital is given 3 times daily by mouth if possible in dosage according to age and 6 hours after initial subcutaneous injection.[2] Undesirable lethargy and respiratory depression may be associated with the use of these agents.

Recently, status epilepticus has been treated successfully with Diazepam (Valium) I.V. at dosages ranging from 5 to 10 mg repeated at 20 minute intervals as often as three times when necessary to achieve control.[3]

Diphenylhydantoin (Dilantin) is also used for the treatment of status epilepticus. The solution should be injected intravenously at a rate not exceeding 1 cc of solution (50 mg Dilantin) per minute. Intravenous doses ranging from 150 to 250 mg may be given 30 minutes later. Dosage for children is usually determined according to weight in proportion to the dosage for a 150 pound adult. Pediatric dosage may also be calculated on the basis of 250 mg per square meter of body surface. One difficulty I have found

with the use of Diphenylhydantoin is that the contents of the Steri-Vials dissolve slowly, requiring about 10 minutes. This can be shortened by immersing the Steri-Vial in warm water after the solvent has been added, then cooling it off.

In three years as staff physician at Redfield State Hospital and School I have been successful treating status epilepticus with the rapid acting barbiturates when safer agents have not been available. Sodium Amobarbital (Amytal) has been my favorite in these situations. I prepare 7½ grain of the dry powder in a 10% solution. Injecting the resulting solution at a rate of 1 cc per minute with an assistant timing me at 5 second intervals. The convulsions stop dramatically. Suction and oxygen are used as necessary. An airway when needed. If there is an elevation of temperature this is treated with the conventional methods and parenteral fluids used judiciously when dehydration is present.

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Precautions: Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development may cause discoloration of teeth.

Adverse Reactions: Gastrointestinal—anorexia, nausea, vomiting, diarrhea, stomatitis, glossitis, enterocolitis, pruritus ani. Skin—maculopapular and erythematous rashes (a case of exfoliative dermatitis has been reported); photosensitivity; onycholysis and discoloration of nails (rare). Kidney—rise in BUN, apparently dose related. Hypersensitivity reactions—urticaria, angioneurotic edema, anaphylaxis. In young infants, bulging fontanels following full therapeutic dosage has been reported. This has disappeared rapidly when drug was discontinued. Teeth—dental staining (yellow-brown) in children of mothers given tetracycline during the latter half of pregnancy and in children given the drug during the neonatal period, infancy, and early childhood. Enamel hypoplasia has been seen in a few children. Blood—anemia, thrombocytopenic purpura, neutropenia, eosinophilia. Liver—cholestasis (rare), usually at high dosage. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy.

Lederle

350-8

LIGATION TREATMENT OF INTERNAL HEMORRHOIDS*

John McGivney, M.D.**

Clinical Medicine: An old and almost forgotten technique for treatment of internal hemorrhoids has proved highly satisfactory to many patients in clinical experience. The author advocates that ligation of internal hemorrhoids should be practiced and taught as a conventional surgical procedure.

Modern Surgery lives in a constantly changing world. The tradition which relegates to this science only those activities which involve the formality of the operating room has long since departed. Nuclear medicine, cryotherapy, and regional perfusion have exceeded our most extravagant expectations. These changes have come about through a proper alteration of a persistent attitude of many of our most honored surgical representatives. The real credit goes to the courageous few who dared to follow an idea, which at the beginning they knew might not be well received.

Hemorrhoidectomy is not always a fulfilling surgical procedure. Even those who do this procedure daily are compelled to admit that it is not entirely satisfactory and that it is fraught with postoperative complications. In addition, physicians are all acutely aware that there has been little progress toward making the procedure more satisfactory and acceptable to the patient. Those who treat patients who have rectal diseases should be in a position to treat hemorrhoids with surgery when the procedure is indicated and inevitable, but they should know of alternate procedures for those patients who are not suited for the procedure or who are unwilling to accept it. The mere presence of internal hemorrhoids is not a mandate for a surgical operation. Those patients who have no symptoms, or perhaps minimal complaints, are not going to find the operation a satisfactory experience.

Injection treatment has been offered these patients for many years but those who inject hemorrhoids are well acquainted with its limitations and inadequacies. Occasionally, injection only serves to increase the size of the hemorrhoidal mass and the extent of the prolapse; in addition, there is limited control of the fibrosis and destruction of the tissues.

The ligation method of abolishing internal hemorrhoids is not new.[1] It was practiced as early as 1829, by Salmon,[2] who placed a ligature around the neck of the hemorrhoid and then allowed the mass to infarct and slough off. This was followed by the technique of excision at the time of ligation, advocated by Allingham in 1873.[3] In 1926, Hirschman[4] proposed ligation combined with excision of the internal and external components of the hemorrhoids. This procedure with various modifications is the one most popularly used today. During the following 30 years, simple ligation of internal hemorrhoids without excision had fallen into disuse and was not mentioned in literature or in textbooks on anorectal diseases of this period.

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*Reprinted with permission from the May, 1967 issue of **Texas Medicine,** Vol. 63.

**Clinical Assistant Professor of Surgery at the University of Texas Medical Branch.

In 1954, Blaisdell presented a new technique for removing hemorrhoids by ligation.[5] His work was not well received; I was among the incredulous. In 1962, Barron[6] revived interest in the procedure and described a modification of the ingenious instrument used by Blaisdell. The instrument provided accurate control, and its proper use achieved permanent eradication of internal hemorrhoids, a feature which was lacking in sclerosing therapy.

Basically, the idea consisted of placing a ligature around the neck of an internal hemorrhoid, interrupting its blood supply and precipitating sloughing of the vascular mass. No hospitalization or anesthesia is required. The instrument devised by Blaisdell utilizes a silk ligature. The results were highly satisfactory but premature loosening of the ligature sometimes created a bleeding problem. Later, Blaisdell[7] advocated the use of rubber bands which provided a much more efficient ligature and a longer period of hemostasis by persistent compression until sloughing of the hemorrhoid was complete.

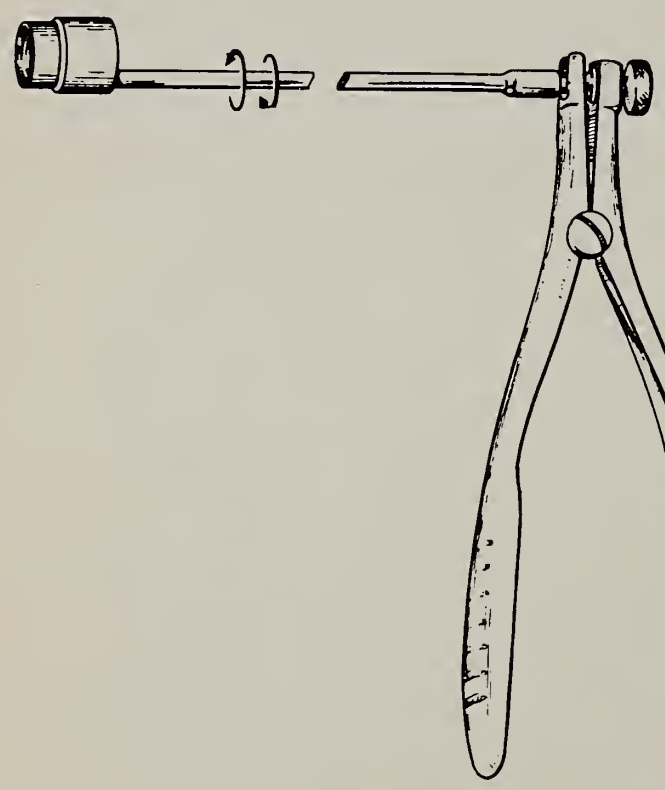

Fig. 1. Hemorrhoidal ligator indicating rotation of shaft.

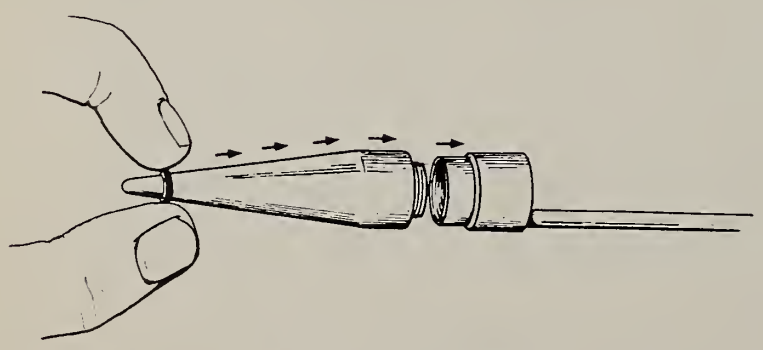

Fig. 2. Method of loading instrument with latex rubber ring.

The instrument (Fig. 1) I use has been considerably modified from that of Blaisdell and Barron. The handle has been simplified so that the shafts are easily interchangeable and are the only portion of the instrument which need be sterilized and changed after each patient has been treated. In addition, the shaft may be rotated a full 360 degrees on the handle, facilitating the placement of the ligating drum in each quadrant of the lower rectum without rotation of the handle. The shafts of the instrument are of varying lengths permitting use through a sigmoidoscope as well as an anoscope.

The loading principle of the Gravlee umbilical cord ligator has been utilized and improved. The cone is fitted into the ligating drum so that it need not be held in place while the latex rubber ring is being placed on the drum (Fig. 2). In addition, it is overriding so that rapid and efficient loading of the instrument is assured. The latex rubber rings are of the highest quality material, reducing the incidence of breakage and fragmentation while the instrument is being loaded. Premature separation is avoided after application to the hemorrhoid, obviating postligation bleeding.

Technique: A fenestrated anoscope is inserted and the largest hemorrhoid is selected for treatment. The cylindrical drum of the instrument is placed over the hemorrhoidal mass and a long-handle forceps, held in inverted position, is used to draw the hemorrhoid through the ligating drum. The point at which the hemorrhoid is grasped should be sufficiently high to insure that the ligation is at least 5 mm. above the anorectal line (Fig. 3) and at the proper level about the pedicle of the hemorrhoid. The maximum amount of tissue is secured in the ligation, if the drum is forced against the hemorrhoid as traction is applied with forceps to draw the hemorrhoid within the cylinder (Fig. 4). At this time the handle is closed and the latex rubber ring is slipped into place around the neck of the hemorrhoid. If the patient has pain at this time, the hemorrhoid has been ligated too close to the anorectal line and it should be removed by means of a crypt hook. The ligature is then reapplied at a higher level. Immediately after ligation of the hemorrhoid, the patient may experience a dull ache but there is no significant pain. Most patients return to work without any degree of discomfort or inconvenience. Later in the day there may be a sense of fullness and a desire to defecate, which should be discouraged. This sensation disappears in 12 to 24 hours. Most of our patients are ligated late in

the afternoon and experience no difficulty in securing a full night's sleep. Patients are given a prescription for an analgesic to use if there is sufficient discomfort to require relief. We ligate one hemorrhoid at a time and allow an interval of two weeks to intervene between subsequent ligations.

After ligation the hemorrhoid begins to swell immediately, darken in color, and within a few hours, infarction is complete; then, necrosis and sloughing begins. At this time the patient begins to notice bleeding stools. Only two of our patients have had excessive bleeding and this occurred from adjacent hemorrhoids and not from the sloughs. Should excessive bleeding occur from the tissues, and since anoscopic examination is painless, the area may be religated without anesthesia to control the bleeding or it may become necessary to fulgurate or to take the patient to the operating room and, under anesthesia, to suture-ligate the bleeding point. The latex ring disappears and sloughing is complete in eight days.

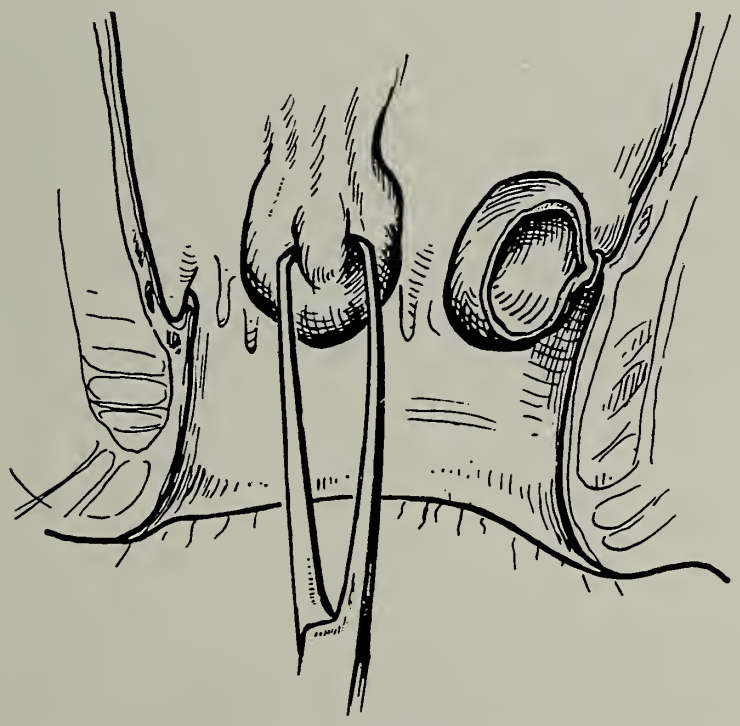

Fig. 3. Proper level for grasping hemorrhoid and a ligated hemorrhoid.

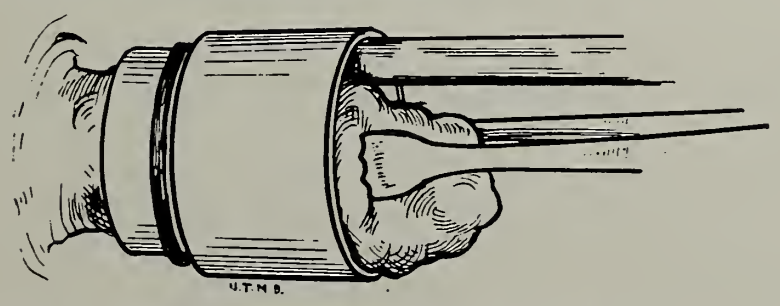

Fig. 4. Hemorrhoid engaged in ligating drum.

After ligation, great care should be exercised to avoid constipation and excessive straining at stool, for these could precipitate bleeding. Accordingly, laxatives and stool softeners such as L. A. Formula or Kondremul are administered. After sloughing, a defect remains at the site of the hemorrhoidal mass which is repaired at the end of two weeks. During this time the patient instills Progonasyl into the rectum twice daily to combat infection and lubricate the next bowel movement. In this way infection is minimized and trauma to the area is obviated.

Patients with third degree prolapsed, thrombosed, and strangulated hemorrhoids are not suitable for this treatment. They are placed on conservative therapy to reduce the swelling and thrombosis. After the acute process has subsided, surgery is recommended but it is possible to ligate the hemorrhoids individually at different stages as an alternate procedure. External hemorrhoids are also unsuitable for ligation therapy.

Postligation hemorrhage can and does occur on rare occasions but probably not as often as postoperative hemorrhage. The patient should be made aware of this possibility before the procedure is initiated.

Anoscopic examination at any period after the ligation is painless and permits periodic observation of the resulting wound. Should excessive bleeding occur, examination and control of bleeding may be performed without anesthesia in most instances.

Ligation of hemorrhoids is often done in conjunction with routine hemorrhoidectomy in the hospital. The two largest hemorrhoids are excised in the conventional manner, and a remaining third one, usually smaller, is ligated with the latex ring. In this manner, a large portion of the anal canal is spared, obviating anal contracture and insuring a much more comfortable convalescence. Should subsequent hemorrhoidal tissue become troublesome, adequate removal may be obtained by ligation and the patient is spared an additional operation. Accordingly, we now feel less apprehensive about leaving small hemorrhoids behind at the time of surgery when we feel surgical removal would compromise the anal outlet.

We have had no significant recurrences during a two-year period. Occasionally, we have failed to engage a sufficient amount of hemorrhoid in the latex ring and it has become necessary to religate the area.

Summary: The ligation of internal hemorrhoids is a satisfactory procedure in selected cases. In elderly individuals, poor anesthetic risks, or persons with recurrent hemorrhoids and residual hemorrhoidal tissue after surgery, this therapy is highly satisfactory.

This report represents a formal experience with several hundred cases. However, we have ligated hundreds of hemorrhoids without incident which have not been documented.

The ligation of internal hemorrhoids is a safe procedure well accepted by patients and should be taught and practiced as a conventional surgical procedure.

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From the Department of Surgery, University of Texas Medical Branch, Galveston, Texas.

Read before the Texas Proctologic Society, Austin, Texas, April 14, 1966.

A contribution of $4,962.00 has been presented to the University of South Dakota Medical School by the South Dakota State Medical Association.

The money represented a grant from the American Medical Education and Research Foundation (AMA-ERF).

Thousands of physicians, their families, and friends throughout the country contributed to the Foundation in 1967 resulting in a total distribution of $948,907.00 to American and Canadian medical schools this year.

Accepting the grant was George W. Knabe, Jr., M.D., Dean of the South Dakota Medical School in Vermillion, South Dakota.

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THE TINY FLAWS IN MEDICAL DESIGN CAN KILL*

Errant currents from faulty electronic equipment are reported imperiling patients in certain cases

Ronald Gechman
West Coast Editor of Electronic Design

A seemingly harmless voltage of 20 millivolts can kill a hospital patient under certain conditions. Moreover such a current may be generated by poorly designed electronic equipment.

Add to that the fact that there are today no Federal, state or local standards to regulate the design, construction and electrical safety of equipment used in a hospital room or doctor's office, and the potential for continuing tragedy exists.

This is the picture painted by medical and engineering critics of some of today's electronic equipment. Deaths have, in fact, already resulted, they say. The cause may be attributed on the death certificate to "ventricular fibrillation" or some comparable medical term.

Two major flaws in equipment are turning up, according to the critics, as medical electronics, still in its infancy, reaches out toward growing markets:

- Faulty components in instrumentation and monitoring devices.
- Wiring systems that do not provide maximum protection for a patient.

Efforts to set safety design standards are being pressed by such professional groups as the Safety Committee of the Instrument Society of America, the Corresponding Committee of the IEEE and the Standards Committee of the Association for the Advancement of Medical Instrumentation. However, they report little headway toward achieving their goals. To fill the void, some manufacturers have begun to set their own standards. And in Congress a bill has been introduced in the House of Representatives to create a national commission that would study the quality controls and manufacturing procedures of, among others, companies that make medical instrumentation equipment.

Basic to the problem, the critics say, is that many hospitals lack adequate grounding systems for their electrical wiring. Except for their use in operating rooms, isolation transformers, designed to protect a patient from grounding accidents, are reported in scarce supply. Some hospitals do not use ground wires but rely on the conduit alone for grounding.

A leading critic, Dr. Paul Stanley, Professor of Aeronautics, Astronautics and Engineering Sciences at Purdue University, Lafayette, Ind., says that doctors are well aware that small electric currents applied to the body can be fatal, but that they are not fully aware that malfunctioning hospital instruments can produce these voltages. The malfunction may be no more than a leaky capacitor in the instrument's power

* Reprinted from **ELECTRONIC DESIGN** — September 1, 1967.

supply, and it may go unnoticed for some time, Dr. Stanley says.

A number of studies indicate that ventricular fibrillation is responsible for the majority of deaths from electrical shock, he reports. In ventricular fibrillation various groups of the heart muscle fibers stop operating in rhythm; instead they operate independent of one another. The result is weak, sporadic heart action that produces death.

Accurate figures on deaths occurring from accidental shocks in hospitals are nearly impossible to obtain, Dr. Stanley concedes. However, instances of death or near-death are reported from time to time.

At one Midwest hospital, according to Dr. Stanley, 40 to 50 patients were shocked over a few months in 1965, owing to a design error in an electromechanical dye injector. He declines to identify the hospital publicly, but he says the machine has since been removed from the market. Parts of it were anodized before assembly, and while this effectively insulated the parts and caused a high resistance path to ground, the patients were grounded through other instruments. Since the patients were a better ground than the dye injector, current from the injector through the patients produced severe shock.

Similar cases were reported that same year by the University of Wisconsin. One patient died and six others were severely shocked by the same dye injector.

In Europe the leading British medical journal, **The Lancet,** reported two instances where patients were severely shocked by broken ground connections. Another case was reported last January in a news story from Yugoslavia telling of a patient's death from electrical shock caused by a defective electrocardiograph.

It is bad enough when a healthy person is subjected to such shocks, Dr. Stanley says, but the problem is drastically compounded when a hospital patient, especially one suffering from a heart problem, receives the shock from an electrical device attached to his body.

In an ordinary, nonmedical situation, the resistance of two electrodes placed on the skin can vary from 500 ohms to 5 ko, depending upon moisture, oils in the skin and the amount of dead skin under the electrodes. But needle electrodes inserted into the body of a patient often reduce the body resistance to zero.

"Under these circumstances, a current as low as 20 uA will probably cause fibrillation," according to Dr. Stanley. He adds that a voltage as low as 20 mV can be fatal and that a voltage of even 2 mV can be seriously harmful.

Assailing "poorly designed and shoddily built" equipment, Dr. Stanley says: "In some instances, circuits have been lifted directly from published articles on the design of medical instruments, without verifying the circuit's adequacy for the company's particular application."

One example of a design error in a heart-lung machine, he says, was one in which the manufacturer put the fuses for six critical motors inside the machine; it took 15 minutes to remove enough screws to reach the fuse box. The manufacturer subsequently relocated the fuses to a more convenient spot.

Other examples of poor equipment design cited by Dr. Stanley include these:

- Defibrillators that produced excessive shock energies.
- Equipment with chattering relays that produced high-voltage leakage currents.
- Pacemakers that were sensitive to pulses on the power line.

An instance where a cardiogram was being taken illustrates what can happen from faulty wiring, Dr. Stanley says. The technician received a severe shock every time she attempted to attach the leads to the patient. The problem was traced to a bed lamp frame that was shorted to its frayed ac line cord. The lamp was touching the bed frame and so was the patient's arm. Since the cardiograph was grounded through a three-prong plug and the lamp was not, the full ac line voltage, 117 volts, was shooting through both the patient and technician.

Isolation Transformers Needed

To prevent similar situations from arising, Dr. Stanley suggests that all supplies be connected through isolation transformers with a separate ground for each room. The transformer would prevent a shock from accidental grounding.

Dr. Jerome Silver, a former electrical engineer and now a surgeon at the Weiss Memorial Hospital in Chicago, echoes Dr. Stanley's concern over hospital safety. He was instrumental in forming rules for the hospital that require every electrical item to be equipped with a three-prong plug, and the plug must be installed by the hospital staff.

In addition Dr. Stanley suggests that all hospitals employ an engineer, who will be responsible for all their electrical systems and equipment. The engineer's duties, he says, should include:

■ Inspecting all plugs on a periodic basis, to make sure they are in proper working order.

■ Replacing tubes in the electronic equipment at recommended intervals, to minimize equipment failure at critical times.

■ Checking instruments at recommended intervals, to ensure that they are properly calibrated.

One complaint hospitals have is that some manufacturers are unwilling to supply sufficient information for independent repair of defective instruments, because they receive extra revenue from the repair of their own equipment. When defective equipment is too large to be sent back to the company for repair, the hospital typically must pay $150 a day for the company to send out an engineer to repair it.

Dr. Leon Riebman, president of American Electronics Laboratories of Colmar, Pa., notes a problem that manufacturers face in designing medical equipment. "Many doctors and hospitals," he says, "cannot agree among themselves on an acceptable design approach for a new medical instrument. This disagreement has caused so much confusion among the companies trying to develop new instruments that the companies are not apt to spend their funds for new instrument designs which could be used more profitably in other areas."

David Kilpatrick, head of American Electronics' Medical Engineering Div., says that because of the lack of general standards, the company has developed its own for medical equipment.

Alarm Checks Grounds

Among the company's rules for its designers are these:

■ All equipment must have three-wire, color-coded cords and plugs.

■ The hot side of the line must be fused no more than 200 per cent of design current.

■ Power switches must be installed on the hot side of the line or both sides, but never on the neutral side only.

■ Modular combination of sub-systems on a single patient must be made through a junction box that contains ground current monitoring, alarm and disconnect circuitry.

For wiring in hospital rooms, Dr. Stanley recommends that every electrical outlet have a No. 10 or No. 8 ground wire going to a ground bus. Each bus should handle a group of rooms and have a No. 0 wire going to a separate earth ground, he says. He also recommends that isolation transformers be used throughout the hospital.

Another recommendation of his is the use of a device to detect and sound an alarm automatically if an open ground connection occurs in a piece of operating equipment. The National Electric Code requires that such an alarm be installed in operating rooms, but it is not required elsewhere in the hospital.

Under the bill introduced in the House of Representatives last February by Rep. Ed Reinecke (R-Calif.) a National Devices Standards Commission would be set up. The commission would not only study the instrumentation equipment used in hospitals and doctors' offices, it would also determine what Federal regulation of the equipment was needed to ensure that it meets minimum performance standards. The regulations would come under the jurisdiction of the Food and Drug Administration. Rep. Reinecke's bill, H.R. 6165, is under study.

At present the danger of shock from electrical equipment attached to a person is not limited to hospitals and doctor's offices. It could extend to test equipment used in schools. One example brought to light recently involved a three-year study completed by the University of North Carolina for the Public Health Service.

The study was designed primarily to obtain information on the calibration and general operating condition of audiometers. It uncovered disturbing information about the safety of the machines. More than 25 per cent of them were found dangerous to operate. Two of the 100 machines tested had a potential of 117 volts on the outside case when plugged into the ac line, and 25 more units tested had enough potential on the case to produce a shock when touched. In addition not a single machine tested met the study's calibration specification.

Dr. Joseph Stewart, audiology consultant for the study, says that an audiometer that is out of calibration can cause serious errors in large-scale screening programs.

"It can, for example, miss the child with a potentially dangerous infection of the middle ear."

The audiometers tested were obtained from health departments, public schools, physicians and hospitals, military and industrial installations, the Veteran's Administration and hearing-aid dealers.

The study traced the inaccuracy of most test instruments to owners or operators who apparently had been unaware of the need for periodic calibration. Nearly half of the instruments had not been calibrated from the day they were purchased.

When technicians removed the back of one audiometer being used by a physician, they found a rat's nest inside, constructed in part from bits of the instrument's wiring and insulation materials.

Most manufacturers, the study found, were not utilizing the latest electronic techniques, such as solid-state construction. Kilpatrick says that some audiometers on the market today are at least 30 years behind modern technology.

One of the audiometers tested was a brand new unit. When it was removed from its packing case, it was found to be so badly out of calibration that it had to be torn apart and completely rebuilt.

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DETERMINATION OF NEED FOR MEDICAL EVALUATION IN DRIVER LICENSING*

Drivers of motor vehicles must possess certain physical and mental abilities to operate the vehicles with safety. The goal of licensing authorities should be to license applicants who have these abilities, and to restrict, withdraw, or deny licenses to those who present an unwarranted risk.

There are more than 100 million licensed drivers in the United States. Providing meaningful medical examinations, initially and periodically, to this number would be extremely difficult. In addition, the mere identification of medical conditions in most individuals probably is of little value in preventing accidents, since many impairments are not a limitation to driving. Drivers with impaired hearing, for instance, have fewer moving violations or accidents than comparable groups without that impairment,[1] and drivers with chronic diseases and impairments which are well identified and well compensated, particularly those affecting the musculoskeletal systems, can be excellent and accident-free drivers. Furthermore, accident statistics show that young male drivers, 16 to 25 years of age, presumably a group with the fewest physical impairments, have the highest incidence of accidents.[3] In this group, lack of mature judgment, rather than impairment, seems to be the critical factor.

Some studies, however, show a greater incidence of accidents among drivers with certain medical conditions,[4-6] and the American Medical Association supports the identification and appropriate handling of such impaired drivers as a move toward the reduction of automobile accidents. Since medical examination of all applicants seems neither practical nor warranted, a screening mechanism to determine which applicants need medical evaluation would provide a workable solution.

It is suggested, therefore, that nonmedical licensing authorities screen all applicants. Ordinarily the fitness of most applicants to drive can be determined quite easily, but often it becomes a matter of medical judgment. To assist licensing authorities in determining which applicants should be required to have a medical examination, the following recommendations are made.

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[1]This statement, based on a special report adopted by the AMA House of Delegates in 1963,[2] has been prepared and approved for publication by the AMA Committee on Medical Aspects of Automotive Safety. The members: H. A. Fenner, Jr., M.D., Hobbs, N.M., **Chairman;** Richard C. Dillihunt, M.D., Portland, Me.; Arthur H. Keeney, M.D., Philadelphia; William K. Keller, M.D., Louisville; Abraham J. Mirkin, M.D., Cumberland, Md.; Paul L. Weygandt, M.D., Akron, Ohio; Lee N. Hames, Chicago, **Secretary.**

Reprint requests to AMA Department of Environmental Health, 535 N. Dearborn St., Chicago 60610 (Mr. Hames).

Medical Recommendations

I. Medical examination should be required of an applicant having the following conditions:

a. Corrected vision of less than 20/40 in the better eye, and/or a visual field of less than 140 degrees horizontally. In general, all recipients of aid under programs for the blind, individuals receiving Internal Revenue Service exemptions for visual loss, and all applicants with obvious uncorrected visual or hearing problem.

b. Known or obvious heart or lung defects, such as a "heart attack" during the past year, shortness of breath when resting, blue discoloration of the nails, swelling of the ankles, or audible wheezing.

c. Nervousness or tenseness obviously beyond that evidenced by the usual applicant.

d. Severe arthritis, muscle weakness, or skeletal and amputation deformities, which are likely to interfere with movements necessary for safe driving.

e. Various neurological defects, partial paralysis, evidence of seizures and blackouts. (Persons with neurological disorders, such as epilepsy, should not automatically be excluded from driving, since many whose disease is well controlled can be safe drivers. Medical examination nonetheless is indicated.)

f. Diabetes involving treatment with insulin, but where no medical evaluation has been made in past year.

g. Chronic alcoholism, drug addiction, or use of narcotics which are not medically prescribed.

h. Gross and severe obesity.

i. Severe mental disturbances, especially sustained hostile and aggressive behavior, or exaggerated and prolonged periods of depression. (This is, however, an extemely difficult determination, and the lay examiner should concern himself only with obvious and gross disturbances.)

j. Personal involvement in circumstances which may justify medical evaluation. These may include (1) involvement in multiple accidents or in several moving traffic violations within a short calendar period, and (2) placement of the person in an "assigned risk" pool for insurance underwriting because of refusal by various commercial carriers to assume the risk. (An exception to this is when the driver is placed in such a pool only because of youthfulness.)

II. Medical examination should be required if, in the judgment of the licensing authority, reasonable doubt exists as to the applicant's driving ability under the following conditions:

a. Mental retardation or learning achievement below the ability to read. (This should not be confused with lack of familiarity with the language, as in recent immigrants or sequestered older nationality groups. This may, however, render such individuals unable to operate a vehicle safely because of inability to read road signs.)

b. Existence of multiple impairments. (While a single impairment might not render the individual incapable of operating a motor vehicle safely, the combination of several such impairments might.)

c. A short-term impairment. (Usually such impairment can be considered as only a temporary limitation to driving. It may be advisable, however, to require a medical examination, since there may be long-lasting or permanent effects.)

d. Chronic conditions. (These should be considered to the extent that they cannot be compensated for by medication, glasses, or appliances.)

e. Advanced age. (Age, alone, should not be a limitation, but medical evaluation is indicated more frequently in maturing years. Older drivers should be advised to avoid night-driving when they may be blinded by oncoming lights, and at dusk or in inclement weather when the amount of light is limited.)

f. Other conditions. (All of the medical conditions which could affect driving safety cannot be enumerated, and the lay examiner will have to depend upon his training, knowledge and experience.)

Medical Administrative Procedures

Screening procedures can be set up in most licensing jurisdictions without major administrative changes, but the need for medical guidance in the development of such procedures, and in the training of lay examiners who will do the screening, is obvious. On the state level, a medical advisory board can be of great value to the motor vehicle department, not only in the setting up of state-wide procedures, but also in reviewing cases where applicants appeal decisions of local examiners.[7]

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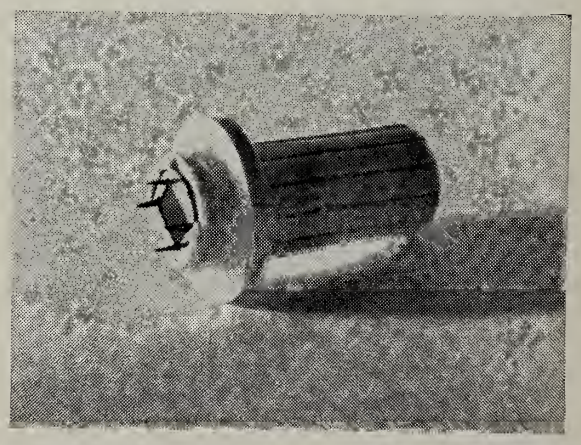

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SODIUM D-THYROXINE INDUCED CARDIAC ALTERATIONS (IN UTERO) OBSERVED IN NEWBORN RABBITS*

G. A. Thibodeau, M.S. and R. N. Swanson, D.V.M., Ph.D.
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Department of Entomology-Zoology
South Dakota State University
Brookings, South Dakota

I. Introduction.

Experimental data, from both animal and clinical research endeavors, points to a direct causal relationship between elevated serum cholesterol levels, concomitant atherosclerosis, and degenerative cardiovascular disease.[1, 2, 3]

Thyroxine and several thyroxine analogues have biologic effects independent of classic calorigenic activity. Chemistry and physiology of the parent thyroid hormones have been reviewed at length by Pitt-Rivers and Tata.[4] Net reduction in circulating blood cholesterol levels is a metabolic effect of thyroid hormones on cholesterol synthesis and excretion. Early studies in this area were reviewed by Duncan and Best.[5]

The parent thyroid hormones 3:5:3':5'-tetraiodo-L-thyronine (LT_4) and 3:5:3'-triiodo-L-thyronine effectively lower elevated serum cholesterol levels.[4] However, utilization by euthyroid subjects is not feasible in most cases because of pronounced calorigenic activity.[6] There is, however, a good reason for studying effects involving thyroxine analogues in relation to cholesterol metabolism.

The sodium salt of dextrothyroxine, D-3:5:3':5'-tetraiodo-thyronine (Na D-T_4), has been an effective and predictable therapeutic agent for reduction of elevated serum cholesterol levels.[7, 8] Metabolic effects appear to be minimal.[9]

Extensive acute and chronic toxicologic studies have been completed employing Na D-T_4 and its L isomer.[9] However, very little data is available concerning the teratogenic effects of the drug. It should be noted that therapeutic use of dextrothyroxine for reduction of elevated serum cholesterol levels is contraindicated during pregnancy.

II. Experimental Method.

Euthyroid, normocholesteremic New Zealand White rabbits were utilized in this investigation. Experimental animals were individually housed in wire mesh hutches and maintained on commercial pelleted rabbit chow and mineral supplement.

The hormone employed was supplied as fine, cream colored powder, having chemical and physical characteristics listed in Table 1. Hormone preparation, in suitable media for oral administration, was accomplished by modification of Kritchevsky's method for preparing solutions of thyroactive compounds.[10] Hormone

* Approved by the director of the South Dakota Agricultural Experiment Station as Journal Series No. 791. Supported in part by South Dakota Heart Assoc. Grant-In-Aid 67-SD-568.

solutions and carrier diluent were prepared fresh each week.

Virgin doe rabbits (3 - 3.5 kg) were mated and randomly allocated to one control and two experimental groups, each containing five animals.

TABLE I
Chemical and Physical Properties of 3:5:3':5'-Tetraiodo-D-Thyronine Used in This Investigation

Molecular Formula:	$C_{15}H_{10}O_4NI_4Na$
Molecular Weight:	798.884 (anhydrous salt)
Solubility:	0.2% in H_2O; 0.4% in 95% ethanol
Melting Point:	235-6°C. (free acid)
Optical Rotation:	$[a]D^{25} = +5.0°$ (c3, .1N NaOH:EtOH 1:8.3)
Appearance:	Cream-colored powder
% H_2O	8.36
% I	62.6
% N	1.66

Control animals received 0.5 ml. of diluent each day of pregnancy. Group I does received 0.5 ml. of diluent during the first 15 days of pregnancy then 2.0 mg. of NaD-T_4 in 0.5 ml. of diluent until kindling. Group II does received 2.0 mg. of NaD-T_4 in 0.5 ml. of diluent daily during pregnancy. The drug was administered orally and begun 24 hours following a 10 hour post coital delay.

Newborn animals were sacrificed immediately and examined for congenital anomalies. Additional parameters measured included total body weight, wet and dry heart and wet liver weights. A Mettler balance was used to record total body weight to one-tenth of a Gm.; wet and dry heart weights to .1 mg. and wet liver weights to 1 mg. Data was obtained from 34 control, 27 Group I, and 30 Group II animals.

Raw means, standard deviations, and regression coefficients for total body weight, wet/dry heart weights, and wet liver weights were computed. All organ weights were individually adjusted to a standard total body weight reference to eliminate possible organ weight variation between treatment and control groups caused by individual animal total body weight differences.

Analyses of variance was the statistical method employed to interpret data collected on adjusted organ weights.

III. **Results and Discussion.**

Highly significant ($P\{.01$) reductions in wet and dry heart weights were observed in both treatment groups when compared to adjusted standards. There were no significant differences in wet liver weights between control and experimental groups and all newborn were free of externally apparent congenital anomalies.

There were no maternal deaths in control or experimental groups. Further, clinical examination demonstrated that each doe was alert, active and apparently disease-free when sacrificed. There was no evidence to suspect that genetic and/or nutritional deficiencies or environmental stress conditions contributed to observed morphologic alterations in DT_4 treated animals.

It should be noted that relatively large (2 mg.) doses of dextrothyroxine were administered during this investigation to normocholesteremic animals. It is reasonable to assume that DT_4, like parent thyroid hormones, passes freely through the placental barrier.

Distribution and concentration of dextrothyroxine in fetal and/or placental tissue is unknown. Therefore, definitive studies, similar to those of Tapley, **et al.**[12] employing ^{131}I-tagged levo- and dextrothyroxine are necessary to elucidate distribution patterns and concentrations of both isomers in these tissues.

Data obtained in this investigation appeared unique. Further, observed results (fetal heart weight reductions) were in apparent variance with published data. A tetratogenic study, utilizing DT_4 in pregnant rabbits, indicated an increased doe lethality at very high dosage levels (10 mg./kg.) when administered orally from day 8 to day 20 of pregnancy. However, they noted no alterations in does or offspring when the drug was administered at a lower dose level during the same period of pregnancy.[13]

ACKNOWLEDGEMENT

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MEDICAL ETHICS AND REASONABLE FEES

By George W. Petznick, M.D.*

Ethics is a word that does not excite the interest of many people and, along with morality, is at once a broad and loose term in this free-wheeling society. However —

Medical ethics definitely provides that the charging of excessive fees is unethical!

If you are not concerned you should be as are your representatives in the House of Delegates of the American Medical Association who, in a series of far-reaching actions, voted proposals designed to come to grips with the escalating costs of medical care.

Why?

Because your AMA leaders realize that rising medical costs have recently become an issue of national importance — not only to politicians, labor leaders, and insurance carriers — but to the average American citizen who is paying the bills.

Along with the problems of increased costs of medical care are attempts to "impose standards of medical care on a national level."

For those of you who have missed the impact of that statement, let me suggest that a physician in court could have his medical care measured by the national standard of that care.

The Ethics of It

You may ask, What has this to do with medical ethics?

Ethics is difficult to define in concise fundamentals, but this should not be distressing because the age in which we live is proof enough that there can be no simple answers to complex questions.

Ethics is a continuing search for principles by which "choice" can be guided. Choice is the important word.

It is a system of values based on truth and good.

In nearly every act of our respective lives, we are confronted with choices involving two or more alternatives. Many choices we must make are absurdly simple and some are astonishingly difficult.

If there is no choice to be made, then there is no problem. If there is only one course possible, the uncertainty of choice is removed and we follow that course.

If, by law, the government enacts standards of medical care and a fixed fee or salary for that care, you have but one choice — not yours but the government's.

John B. Archer, M.D., in a discussion of morality in medicine wrote that, in choosing, we exercise as many as four types of judgments.

The first and most important is moral judgment that distinguishes between right and wrong, good or bad.

Aesthetic judgment classifies objects and acts as beautiful or ugly.

Prudential judgment should tell us the difference between that which is wise and that which is foolish.

Logical judgment deals with the validity or fallacy of those things by which we would prove our positions.

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* Dr. Petznick, a Cleveland practitioner, is a member of the American Medical Association Judicial Council, a Past President of the Ohio State Medical Association, and a Delegate to the AMA. This article is the text of a lecture prepared for delivery before the Conference of County Medical Society Officers, Columbus, February 25, 1968.

Reprinted from the **Ohio State Medical Journal**, page 363, March 1968.

Our judgment is never better than our information. To make informed judgments, we must possess the necessary knowledge and the ability to use it.

This we call wisdom!

Judicial Application

Is it wisdom to say that a medical society review committee must use its best professional judgment in determining the reasonableness of a fee? Emphatically the answer is "yes" because, if medicine is expected to succeed in achieving a usual, customary, and **reasonable** fee payment program involving all third parties, private, commercial, public, or government, then medicine must expect to assume the **responsibility** to assure the patient that the fee is usual, customary, and reasonable.

If medicine declines this responsibility or refuses to carry it out, the only alternative is for a lay third party to dictate fees. The privilege of the usual, customary, and reasonable fee for physicians carries with it the equal responsibility the profession must shoulder in determining reasonableness.

If medicine is to continue to be master of its own house, then it must accept and carry out this responsibility.

The fact that a physician consistently charges and collects an excessive fee for a particular procedure does not mean that this fee meets the usual, customary, and **reasonable** criteria.

For example, a physician cannot ethically and logically argue that the fact that he charges all patients $500 for an appendectomy or $1000 for a laminectomy means that this is a reasonable fee.

Let me cite an actual bill from an Ohio allergist—

9-1-67	Consultation	$125.00
9-1-67	Allergy Tests	$125.00
9-3-67	Allergy Tests	$125.00
9-5-67	Allergy Tests	$125.00
	Total	$500.00

Let me quote from Sylvia Porter's nationally syndicated article of December 12, 1967. "One New York surgeon charged an elderly patient $175 to remove a cataract before medicare. But the same surgeon's charge for a similar operation on the same patient after medicare became effective was $500. Because of the deductibles and because the reasonable and customary fee allowed by the government for this operation was only a fraction of $500, this patient now had to pay $400 for the post medicare operation, instead of the $175 he paid pre-medicare.

A Look from the Inside

"The excesses of a greedy fringe are openly and widely admitted. If the U. S. medical profession fails to curb them on its own, it will only be inviting further government controls on medical practice and fees, a step the profession wants least."

Doctors reportedly have increased their fees because they were told or knew that insurance would quite likely pay the bill. This is strange reasoning when it is realized that the physician raises his fee for services to a man who has been so concerned about paying his doctor when necessary that he has been saving his money for that purpose.

It isn't just a case of considering the ability of the patient to pay. Rather, consideration should be given to the fact that the individual has actually saved his money for this purpose, thus lessening to some extent the doctor's financial problem.

Providers of professional services are not only qualified but they are sanctioned in their endeavors by their fellow men. Logically, these professional people must impose additional limitations upon themselves with respect to this privilege and responsibility.

We call these additional and voluntarily assumed limitations a system of professional ethics.

The Principles of Medical Ethics of the **AMA** in the fewest possible words exhorts the physician to dedication, honesty, competence, responsibility, moral attainment, and good citizenship.

There is no reference, direct or indirect, to professional freedom. It is not a law, yet the whole of the document is a declaration of moral freedom, but only freedom to choose the right.

We are dealing with guides, admonitions, injunctions and moral yardsticks.

It has been observed that the greatest strength of any profession is within itself because it alone has the responsibility of its perpetuation, it alone has the responsibility for the extension of its knowledge, and it alone for the scope of its services.

The nature and characteristics of medicine being what they are, it is obvious that the profession contains the seeds of its own destruction.

If we nurture or even condone the incompetent, the morally deficient, or the willful violator, then we are helping these seeds to germinate.

Just as it is right and ethical for a physician to expect to receive his usual, customary, and

(Continued on Page 43)

THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

CONSTRUCTION BEGINS

Shown above is a photograph of the initial stages of construction on the addition to the School of Medicine. The photo shows the two south wings that will be involved in the project and the initial excavation in the back of the wing on the left. The first objective is to place concrete footers under the ends of the present wings to prevent them from settling or cracking when the new portions are attached. The new section will extend southward approximately 80 feet into the parking lot. The width of the east-west connecting wing will be approximately 112 feet.

The general contracting bid was won by the Sioux Falls Construction Company, the plumbing and heating bid went to George H. Wentz, Inc., Lincoln, Nebraska and the electrical work to Thompson Electric of Sioux City, Iowa. We expect the wing to be completed by April, 1969.

STUDENT AWARDS

The annual Medical School Awards Banquet and Dance was held on April 6, 1968 at the Ramada Inn in Sioux Falls. These student awards are for exceptional academic achievement and are contributed by a number of individuals and organizations.

Awards were made to two incoming freshmen who have outstanding records in pre-medicine:

State Medical Association Award:
$450 to Cheryl J. Kohl
Lyle J. Hare Scholarship:
$350 to Jeffrey D. Rose

Awards to freshman medical students were as follows:

Charles Pfizer Award:
$1000 to James C. Giebink
Huron Clinic Award:
$750 to John C. Finke
Nakao Scholarships:
$500 each to
William Kilpatrick
Jeffrey C. Felt
George T. Jordan Award:
$200 to John R. Emery
Yankton Clinic Award:
$100 to Michael H. Scarmon
Allen F. Sterling Award:
$ 50 to Michael H. Scarmon
State Medical Association Award:
$100 to Henry A. Oster

Awards to Sophomores were:

Huron Clinic Award:
$250 to Harold P. Adams
Medical Faculty Award:
$260 to Harold P. Adams
Payne Scholarships:
$300 each to Gerald D. Evans and Timothy B. Hopkins
State Medical Association Award:
$100 to Wesley D. Putnam
Yankton Clinic Award:
$100 to Charles R. Stoltz
Kreiser Medical Award:
$100 to Norman D. Neu
Arnold Pritschow Award:
$100 to Curtis L. Mark
J. A. Kittelson Award:
$100 to Wesley D. Putnam
Wm. E. Edwards Award:
$100 to Harold P. Adams
Fred Kreiser Memorial:
$ 50 to Gerald D. Evans
Christian P. Lommen Award:
$ 50 to Timothy B. Hopkins
Meisenholder Award:
$ 50 to Wesley D. Putnam
H. L. Eldridge Award:
$100 to Charles R. Stoltz
WASAMA Award:
$100 to Michael J. Brown

The Edwin Shaw Award in Biochemistry, the Anatomical Pathology Award and the Clinical Pathology Award will be named at the completion of these courses. Several non-monetary awards were also made at the banquet:

Hoffman-LaRoche Award:
An Omega wristwatch to Harold P. Adams
Price Award in Anatomy:
Physicians Bookends to Norman D. Neu
Merck Award:
A Merck Manual to Anthony Javurek
Mosby Book Awards:
Harold P. Adams
Gerald D. Evans
Timothy B. Hopkins
Wesley D. Putnam
Charles R. Stoltz
Lange Book Awards:
Norman D. Neu
Curtis L. Mark
James C. Giebink
John C. Finke

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

CALCIUM

Calcium exists in the body in combination with phosphorus, chiefly as one of the main constituents of bone. It is also found in all tissue cells and in extracellular fluids. In a manner very similar to that of phosphorus, calcium takes part in a constant interchange between bone, cells and the extracellular fluids. Calcium also has a role in regulating neuromuscular excitability and is necessary in the blood coagulation process.

Healthy individuals ingest and excrete approximately the same amounts of calcium each day. During pregnancy and lactation there is an increased need for calcium in the diet. Almost all calcium is absorbed in an acid medium high in the small intestine. It has been found that adequate amounts of vitamin D and normal fat digestion aid in this absorption.

Calcium exists in at least two forms in serum. One form is a complex which is in combination with the serum proteins, and the other is an ionized form which is the physiologically active fraction. The amount of the fraction bound to protein necessarily affects serum calcium values. In hypoproteinemia, total calcium values are decreased and in hyperproteinemia they are increased.

The serum concentration of the ionized fraction is altered principally by three separate factors: (1) **Serum pH.** The presence of alkalosis will lower, and that of acidosis will increase the serum calcium level. (2) **Vitamin D.** This vitamin elevates serum calcium levels by increasing calcium absorption and by causing the excretion of phosphorus. (3) **Parathyroid hormone.** This hormone has two distinct actions: one on bone, called the calcium mobilizing factor, which manifests itself by liberating calcium and phosphorus from the bone thus elevating serum calcium values, and the other on the kidney, the phosphaturic principle, which increases renal excretion of phosphorus by decreasing its tubular reabsorption. This results in lowered serum phosphorus levels. The combination of the two actions is to elevate serum calcium values and cause increased urinary excretion of both calcium and phosphorus.

Calcium intake has little effect on serum calcium values. Under normal dietary conditions, 20% of ingested calcium is excreted in the urine. This urinary excretion varies directly with the concentration of ionized calcium in the serum.

NORMAL VALUES. Calcium in the serum of normal individuals usually varies from 9.0 to 11.5 mg. per 100 ml. Of this 4.5 to 5.5 mg. per 100 ml. is in the ionized form, approximately 0.5 mg. is present in a citrate-like complex and the remainder is in combination with serum protein. In order to properly evaluate a serum calcium determination, the physician should **also know the total serum protein values,** as the concentration of calcium varies directly with this concentration.

INCREASED VALUES. Increased serum calcium values can be caused by an increase in either of the two major fractions. Diseases such as multiple myeloma and sarcoid where serum proteins are elevated will also show elevated serum calcium values, usually without significant alterations in the serum phosphorus and alkaline phosphatase. The ionized fraction is increased in hyperparathyroidism and in hypervitaminosis D; these conditions therefore cause increased serum values. Here, phosphorus and alkaline phosphatase as well as calcium values are important in differential diagnosis. Phosphorus is low in hyperparathyroidism and normal or high in hypervitaminosis D. The alkaline phosphatase elevation in hyperparathyroidism which is sometimes present will be in proportion to the amount of bone involvement and osteoporosis present. Simple bed rest and diets high in milk and alkali can cause increased serum calcium and phosphorus values by mobilization of the two substances from bone.

DECREASED VALUES. Tetany is a very frequent finding in diseases in which a lowering of ionized serum calcium is found. It is seen in hypoparathyroidism which is characterized by decreased calcium and increased phosphorus serum values. Inadequate intake or absorption of vitamin D can also result in tetany. Here calcium values may be low or normal but accompanied by low phosphorus and increased alkaline phosphatase values. Calcium values may also be decreased in hypoproteinemic states, such as in the nephrotic syndrome, malnutrition, sprue and cystic fibrosis of the pan-

creas. Advanced glomerulonephritis and nephrosclerosis can also cause some lowering of values.

Some of the more common conditions in which serum calcium, inorganic phosphorus, alkaline phosphatase and urinary calcium values are altered are listed below.

Disease	Serum			Urine
	Calcium	Phos-phorus	Alkaline Phos-phatase	Calcium
Hypovitaminosis D, Rickets	N or —	—	+	—
Hypervitaminosis D.	+	N or +	N	+
Hypoparathyroidism	—	+	— or N	—
Hyperparathyroidism	+	—	N or +	+
Paget's disease	N	N	+	N or +
Metastatic carcinoma bone	N or +	N or +	N or +	+
Multiple myeloma	+	N or —	N	N
Cushing's disease	N or —	N or —	+	+
Fibrous dysplasia	N	N	+	+
Solitary bone cyst	N	N	N	N

N Normal + Increased — Decreased

Serum calcium, inorganic phosphorus, alkaline phosphatase and serum protein determinations can aid in the diagnosis of many bone diseases, in ruling out hyperparathyroidism in patients with renal calculi and in differentiating convulsions caused by hypoparathyroidism or vitamin D deficiency from those of epilepsy or hypoglycemia.

Material for the test. Serum 10 ml.

NOTE: When inorganic phosphorus determinations are to be done, serum must be separated from the clot as soon as possible.

REFERENCE

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(Continued from Page 36)

reasonable fee for professional services, it is equally right and ethical, as stated by the AMA House of Delegates, that his fee may be reviewed only by a duly constituted county medical society committee of the physician's peers.

Most physicians charge reasonable fees.

Reflections on the Profession

County medical society review committees, ethics committees, grievance committees, or county medical societies as a whole, cannot continue to tolerate excessive charges by a few physicians, for these excesses cast improper, unwanted, and unethical reflections on the entire profession.

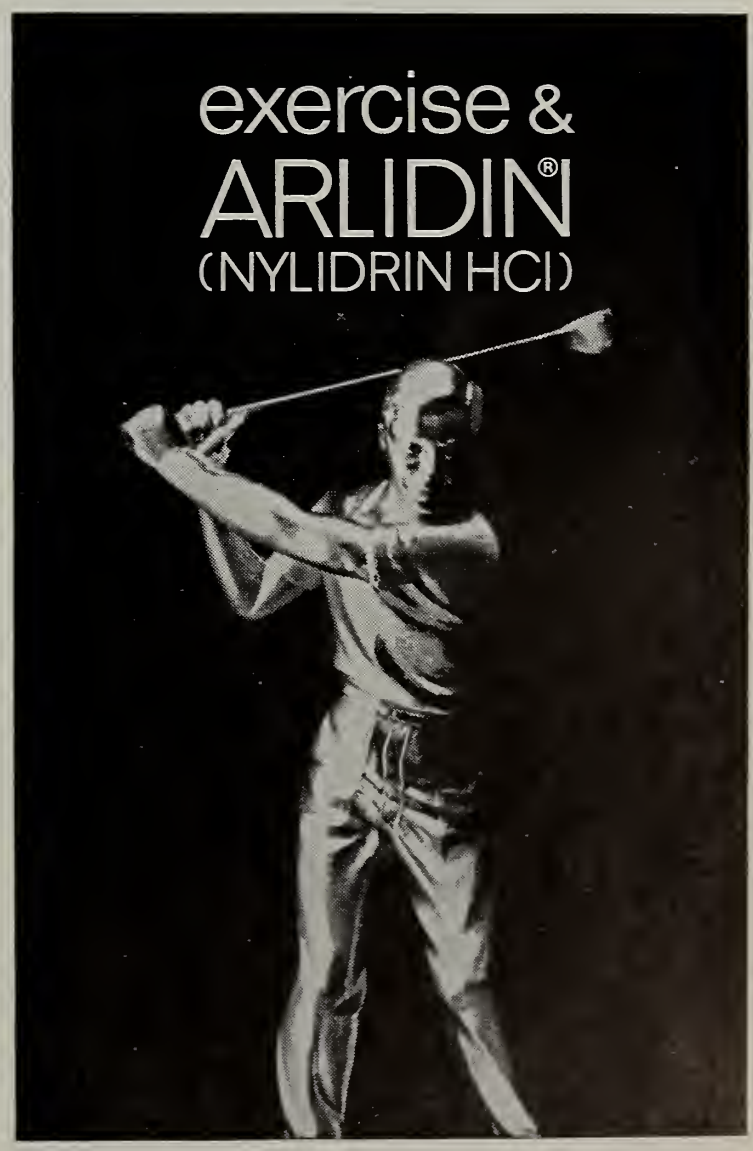
If medicine is to continue to be master of its own house, then it must accept and carry out this responsibility. If medicine fails, the course will lead the profession to prevailing fees, then to fixed fees, then to salaried employees of the government.

Is the profession worth so little to physicians that they will not effectively act against a very small minority to protect the character, reputation, freedom, and independence of the vast majority of doctors?

Medicine must wake up to the fact that there are many socio-political-government interests that are very anxious to control medicine and they know the easiest way to do this is to control fees.

Medical societies must be more aggressive and more effective in acting against excessive charges. The society must judge the act itself and not the stature or influence of the physician responsible for the act.

Finally, the **Principles of Medical Ethics** is the greatest professional code ever written, but it is not worth a nickel if the profession does not actively and effectively enforce the code.



20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — Volume 1, No. 6, June, 1948

Excerpts from the article entitled, "Venous Thrombosis," by Alton Ochsner, M.D. and Michael E. DeBakey, M.D. Ochsner Clinic, New Orleans, La.

Many fatalities and considerable disability have been caused by venous thrombosis, but it is only recently that a great deal of attention has been paid to this distressing condition. Considerable confusion has existed concerning these lesions, much of which has been due to the lack of evaluation of the causes of venous thrombosis. From our clinical experience we are convinced that there are two distinct types of intravenous clotting which are different in every way except that in both there is a thrombus within the vein. Unless one differentiates between these two types of venous thrombosis, confusion as regards diagnosis, therapy, and prognosis will continue.

SUMMARY AND CONCLUSION

Venous thrombosis is a serious condition and is responsible for many fatalities and much suffering.

In order to rationally treat venous thrombosis it is necessary to distinguish two different types which differ etiologically, pathologically, symptomatically, therapeutically, and prognostically.

Thrombophlebitis produces marked symptoms, is not complicated by embolism, and does not kill, except in suppurative process, and is satisfactorily treated by vasodilatation.

Phlebothrombosis produces few or no symptoms but is a potentially fatal condition. Embolism is common. The treatment is radical and consists of embolectomy or vein ligation.

* * *

CHARLES FLETT, M.D.

Dr. Charles Flett 82, Milbank, South Dakota passed away May 25, 1948.

Dr. Flett had practiced medicine over 50 years until his retirement 2 years ago.

* * *

NEW PATHOLOGIST AT SIOUX VALLEY

The Sioux Valley Hospital in Sioux Falls has announced the appointment of Doctor James Y. Clarke as pathologist at the hospital.

Dr. Clarke is a graduate of the University of Minnesota and served his internship at Wayne University in Detroit. Prior to graduation he was employed as a part time pathologist at St. Joseph's Hospital in Saint Paul. Dr. Clarke is married and has two children.

* * *

DR. SUMMERS LEAVES STATE

Dr. John E. Summers, formerly with the department of Anatomy at the University of South Dakota, has left the state.

Dr. Summers' new address will be John E. Summers, M.D., resident in Orthopedic Surgery, The Norwalk Hospital, Norwalk, Conn.

Dr. Summers has been a frequent contributor to the Journal of Medicine with his latest paper appearing in the February issue of the Journal.

* * *

DR. C. A. MILLS ON PROGRAM

Due to the sudden illness of Dr. N. G. Alcock of the University of Iowa, Dr. C. A. Mills, Professor of Experimental Medicine at the University of Cincinnati, filled in for Dr. Alcock at the second general session of the South Dakota Medical Associations Annual meeting, Monday May 31st.

Dr. Mills is the brother of Doctor G. W. Mills of Wall, South Dakota and appeared on the Annual meeting program last year at Rapid City. Dr. Mills presented slides on his Mexican experience to close out the Monday afternoon session.

* * *

DR. STEWART RETIRES AS SECRETARY

Dr. J. L. Stewart of Spearfish has retired as secretary of the South Dakota Medical Veterans' Society, after serving in that position for 22 years.

Requisite for membership in that organization is 30 years of practice in South Dakota. Dr. Stewart was graduated from Medical school 55 years ago. He attended all sessions of the Medical Association's Annual meeting which ended June 1st.

LETTER TO THE EDITOR

Mr. Richard C. Erickson
Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota
Dear Mr. Erickson:

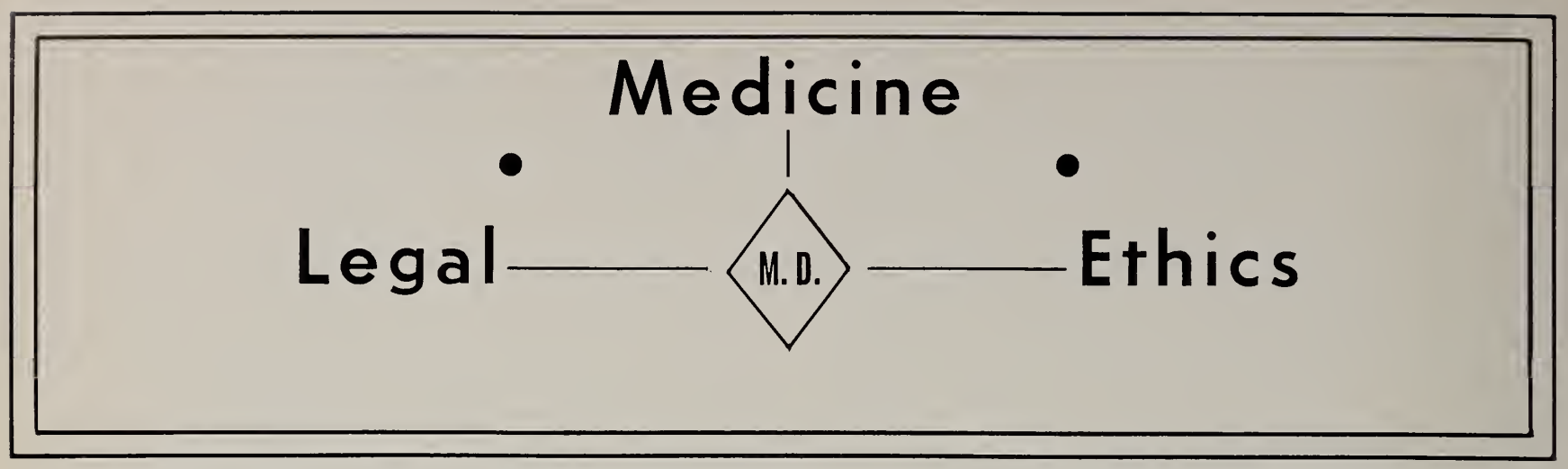
We wish to gratefully acknowledge the check we have received representing this year's award from the American Medical Association Education and Research Foundation to our school in the amount of $4,962.48. This support from physicians provides our medical school with a resource for some of its essential, but otherwise negligibly supported, operations. Over the past years, AMA-ERF contributions have permitted key faculty and administrative personnel to attend important conferences and seminars, have provided funds for visiting lecturers, for certain research projects, and have given considerable flexibility to day-to-day operations of our school. These and other activities clearly illustrate the value and need for programs like the AMA-ERF.

It is interesting to note that over the past three years the contributions specifically designated for this school have been increasing, while undesignated funds have slightly decreased. We would hope this is an indication that the physicians in South Dakota, and our alumni throughout the country, recognize the pressing needs of our medical school, brought about by the ever-increasing demands of the various publics we serve.

Again, on behalf of the School of Medicine, I wish to express appreciation for the financial support given by the American Medical Education and Research Foundation, and for the efforts expended by yourself and your staff for the implementation of this program.

Sincerely yours,
George W. Knabe, Jr., M.D.
Dean
University of South Dakota

ONAMIA, MINNESOTA, will be needing one or two general practitioners to take over well established practice which will be vacated July 15, 1968. Present doctor leaving area. Beautiful 31 bed general hospital; 40 bed C&NC unit attached. Almost new clinic building available with dental suite occupied. 3 doctors from nearby towns on staff. Area population near 5000 permanent residents; eight to ten thousand summer lake residents and tourists. Hospital and town located on shores of Onamia Lake; famous Mille Lacs Lake only two miles distance. Many other desirable lakes for year around living right close by. Town has 3 industries, Crosier Seminary, good schools, churches of different faiths. Two golf courses in area. Excellent community; healthy place to live; fishing, hunting, summer and winter sports. Practice has excellent potential. Away from the madding crowd, yet just a short distance to Minneapolis, St. Cloud and Brainerd. Make the move to Onamia and Mille Lacs Lake where living is fun — where you'll have something to shout about. Contact M. E. Engstrom, Asst. Administrator, Community Mercy Hospital, Onamia, Minnesota 56359. Phone (612) 532-3154.



PHYSICIANS AND HOSPITAL EXONERATED IN SUIT FOR UNSUCCESSFUL CORNEAL TRANSPLANT

A patient who underwent an unsuccessful corneal transplant was not entitled to recover damages in a suit against two physicians and a hospital, the New York Court of Appeals ruled. The following rulings of the intermediate appellate court were affirmed: (1) the first physician was not negligent in selecting the second physician to perform the operation, where there was no evidence that he was not qualified by skill and experience to do so; (2) there was not evidence that the unsuccessful result of the operation was caused by lack of skill or negligence in the performance of the operation; (3) there was not sufficient evidence to warrant submission to the jury of the issue of whether the operation was contraindicated, so that the decision to perform it constituted negligence.

* * *

PHYSICIAN NOT LIABLE IN PATIENT'S SUIT FOR REMOVAL OF BREAST

A patient was not entitled to recover damages in a suit against a physician for his alleged breach of an agreement not to perform a radical mastectomy on her, the New York Court of Appeals ruled.

A biopsy was performed on November 22. The radical mastectomy was performed on November 26. The patient testified that the physician had agreed, at her insistence, to limit the surgical procedure to the removal of the growth itself. The physician testified that the agreement was that he would discuss the pathologist's report with her after the biopsy, and she would have the further surgery if the report showed cancer, and that she agreed to the radical mastectomy after being told that the report did show cancer.

What the patient alleged and tried to prove was that the physician had performed the radical mastectomy without her consent. That would constitute an assault, rather than a breach of contract. The 2-year assault statute of limitations had run out at the time the patient filed this suit. Further, if there was any agreement, it was that the physician would perform only a biopsy the first time the patient was taken to the operating room. There was no breach of that agreement.

* * *

PATIENT MUST NOT BE NEGLECTED

A physician is free to choose whom he will serve. He should, however, respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, the physician should not neglect the patient, nor should he withdraw from the case without giving notice to the patient, his relatives or his responsible friends sufficiently long in advance of his withdrawal to allow them to secure another medical attendant.

* * *

EMERGENCY CASES

When a physician is called in an emergency because the personal or family physician is not at hand, he should provide only for the patient's immediate need and should withdraw from the case on the arrival of the personal or family physician. However, he should first report to the personal or family physician the condition found and the treatment administered.

* * *

PRECEDENCE WHEN SEVERAL PHYSICIANS ARE SUMMONED

When several physicians have been summoned in a case of sudden illness or of accident, the first to arrive should be considered the physician in charge. However, as soon as is practicable, or on the arrival of the acknowledged

(Continued on Page 54)

Information provided by the Law Department, American Medical Association, 535 North Dearborn St., Chicago, Illinois.

THE MONTH IN WASHINGTON

The American Medical Association stated that the regional medical programs had showed good progress in the early stages but urged that Congress order an early evaluation by a non-government agency.

The AMA position was outlined by Bland W. Cannon, M.D., of Memphis, Tenn., a member of the Association Council on Medical Education, in testimony before the House Subcommittee on Public Health and Welfare. The subcommittee was considering Administration legislation to extend the regional medical program law for five years.

Subcommittee members reacted favorably to an AMA recommendation that the extension be for only three years. Some of the congressmen also indicated opposition to a recommendation by Michael DeBakey, M.D., of Houston, Tex., that appropriations for the regional medical programs be increased sharply.

"We view with favor the early progress of RMP, its ability to build on existing patterns of medical care (sometimes adding new features or changing old ones as local demands and resources make possible) and the local flexibility which allows the program to make a real contribution to the health care of our nation," Dr. Cannon said. "At the same time, we recognize that the concept of the Regional Medical Program is still in its very early stage of existence and that it is difficult to fully appraise the program. We do not know, for example, how much this program adds to the stress on an already overtaxed supply of available medical manpower.

"There is some concern that the proliferation of federal health programs substantially contributes to the rise in health care costs. For this reason, we are pleased that H.R. 15758 provides for an evaluation of the program. We would suggest, however, that the evaluation begin July 1, 1968, rather than July 1, 1969, since 'evaluation' should be an integral part of the planning. We also suggest that the subcommittee consider further amending Section 102 to provide that the evaluation shall be made by a non-government agency . . .

"We recommend that the subcommittee delete the open-end authorization for funds for the four fiscal years ending after June 30, 1969. In view of the fact that we are still dealing with a relatively untried program, we believe it would be wise to limit the authorization to such sums as this subcommittee may determine to be reasonable, rather than to provide for 'such sums as may be necessary for the next four fiscal years.' "

Henry Brill, M.D., of Brentwood, N. Y., chairman of the AMA's Committee on Alcoholism and Drug Dependence, said that the AMA supported the part of the legislation authorizing federal grants for construction of facilities for a new program for alcoholic and narcotic addict rehabilitation.

"However," he said, "we have long felt that funds for staffing and operation are properly the responsibility of the community, once the major burden of construction has been met with federal assistance."

* * *

The American Medical Association and the Association of American Medical Colleges announced a joint policy designed to increase the number of medical students.

The statement "emphasized the urgent and critical need for more physicians if national expectations for health services are to be realized," and listed immediate and long-range steps that should be taken.

Immediate steps: —

1. Increase the enrollment of existing medical schools.

2. Foster curricular innovations and other changes in the educational programs which could shorten the time required for a medical education and minimize the costs.

3. Meet the need for innovation in educational programs and to encourage diversity in the character and objectives of medical schools. The development of schools of quality where a primary mission is the preparation of able physicians for clinical practice as economically and rapidly as possible is to be encouraged.

"A longer-range approach to the need for physicians is the development of new medical schools," the statement said. "This approach will not solve our immediate, urgent need for more physicians but it is essential for meeting the national needs of 1980 and beyond.

"To implement the measure enumerated above will require adequate financial support from governmental and various private sources for: —

"1. Construction of facilities to expand enrollment of existing schools and to create new schools.

"2. Support of the operational costs of medical schools.

"3. Stimulation and incentive for educational innovation and improvement."

* * *

Wilbur J. Cohen, a key proponent of medicare, was named by President Johnson to succeed John W. Gardner as secretary of Health, Education and Welfare.

Cohen, now 54, started with the federal government in the early thirties and helped draft the social security program. Recognized by Congress as an expert on social security, he was the leading architect of medicare and played a prominent role in getting Congressional approval of the program.

He had been undersecretary of HEW since June, 1965. For the previous four years, he had been assistant secretary of HEW.

At a news conference following his appointment to the top HEW post, Cohen foresaw health care accounting for as much as 50 percent of total welfare costs. He urged that voluntary private health insurance be improved. But he said that he did not believe private programs could be improved sufficiently to eliminate the need for government help in dealing with the health care needs of low income groups and the disabled.

"Medicare and medicaid have had some impact on higher medical costs," Cohen said. "But I think doctors' costs are going to taper off. Hospital costs are going to continue to rise but there is a problem of antiquated and inefficient methods. This can be changed."

Soon after Gardner's resignation became effective, Cohen announced major steps in the reorganization of HEW's health activities. Unified direction of HEW's major health agencies was assigned to Dr. Philip R. Lee, Assistant Secretary for Health and Scientific Affairs. Dr. William H. Stewart, Surgeon General of the Public Health Service, was named principal deputy to Dr. Lee.

Dr. Lee was given direct authority over the Public Health Service and the Food and Drug Administration. Dr. Stewart and Food and Drug Commissioner James L. Goddard, M.D., will report directly to the Assistant Secretary, while continuing to carry out their present administrative functions.

Dr. Lee's responsibility also was expanded to include over-all health policy direction and coordination of other health programs, including medicare, medicaid and the health activities of the children's bureau.

In his 1968 message to Congress, President Johnson had directed the HEW secretary to submit "a modern plan of organization to achieve the most efficient and economical operation of the health programs of the federal government."

"In the past four years," Cohen said, "31 major new laws have been enacted that increase the Department's authority, responsibility and appropriations in the field of health.

"The total federal investment in health has grown from approximately $3 billion in 1960 to nearly $14 billion in 1968, and $16 billion proposed in 1969. Because of new programs, like medicare and medicaid, the HEW health investment alone has more than tripled in the past three years, from $2.6 billion in 1966 to $9.6 billion this fiscal year, and $10.9 billion proposed for 1969."

In a reassignment of agency responsibilities, the National Institutes of Health was expanded to include the present NIH, the Bureau of Health Manpower and the National Library of Medicine. The Health Services and Mental Health Administration was set up with responsibility for all other functions previously assigned to the Public Health Service. These two new agencies, along with the present Food and Drug Administration now make up an expanded and more comprehensive Public Health Service.

(Continued on Page 54)

. . . . and where to give, that is the question!

By E. H. Heinrichs, M.D.

Last month an Editorial in this Journal[1] dealt with the problems encountered with intragluteal injections and discouraged the routine use of the gluteal muscle site for injections because the recommended area is relatively small and difficult to reach, especially in a patient who is not able to be turned. Prudent use of other sites available is therefore mandatory.

A search in the standard textbooks of the major medical and surgical disciplines revealed that they do advise about the dangers of intragluteal injections but do not recommend alternates. On the other side, many articles have been written on the subject and it is common practice in pediatric circles to utilize other, less dangerous areas for intramuscular injections for some time.

At this point, it should be mentioned that any intramuscular injection can result in muscular, nerve or vascular tissue damage.[2, 3] However, some sites are not traversed by structures of any appreciable size or importance and an occasional injury to them does not usually result in a disaster comparable to a sciatic nerve or femoral artery injury.

Proper techniques should always be observed. For example, when the needle is placed in the intended space, an aspiration attempt should be made. Another aspect should be paid attention to: If the length of the needle and the direction of the injection is not taken under careful consideration, the tip of the needle might be in a different location than intended.

Which are the recommended sites? In order of preference, they are:

(a) The lateral thigh,

(b) The deltoid muscle,

(c) The anterior thigh.

With exception of the deltoid muscle, they provide relatively large surfaces, but all three are easily accessible in a bedridden patient and are free from fecal contamination, especially in infants.

Since 1920, when G. G. Turner, apparently as the first author, recommended the site,[4] the lateral aspect of the thigh is recommended as the preferred site for intramuscular injections in all ages.[5]

Less suitable for injections is the deltoid muscle because of the limited space it represents. This site is therefore recommended only for small volume injections and should be used in rotation when the capacities of other areas are overtaxed. The disadvantage of this space is that even minor transgressions beyond the topographical borderlines particularly caudally, can endanger important neural and vascular structures of the area.[3]

The anterior thigh can be used only in the lateral part of the middle third. In no case, should the injection be given beyond the medial border of the M. rectus femoris.

One of the methods to minimize the unpleasant effects of intramuscular injections upon the patient, to increase the absorption rate of the drug and to decrease the possibility of ill effects upon the tissue is to rotate the sites routinely. Some hospitals have provided such instructions already in their nursing manuals.[6]

Only when one is fully aware of the potential dangers and the topographical limitations of each injection site, complications can be avoided. Since nurses will give intramuscular injections increasingly in the future, vigorous efforts to train them well and repeatedly should be instituted.

Addendum

Description of the injection site in the area of the lateral aspect of the thigh (Augustine,[7] Hill,[8] Gilles[9]):

The injections are made into the muscle of the thigh along a line extending from the greater trochanter cranially to the lateral femoral condyle caudally, using the antero-lateral aspect of the thigh. The area is limited in adults by a hands breadth below the greater trochanter and a hands breadth above the knee. In children, the junction of the middle to the distal third of the thigh along this line is the best site for skin penetration. With the patient sitting or lying supine the needle should be directed parallel to the bed or table or slightly upward in adults, slightly downward towards the bone in children. Compression of the tissue between the fingers at the injection site helps to stabilize the needle and extremity and to distract the patient from pain. In adults, a 3.8 cm. (1½ inch), in children a 2.5 cm. (1 inch) long needle should be used, the gauge depending upon the medication to be injected.

Description of the injection site of the deltoid muscle:

The injections are made in the area limited caudally by the V-shaped distal insertion of the deltoid muscle and cranially by a transverse line 3 cm. (1⅜ inches) below the achromion in adults, proportionately less in children. The needle should be directed strictly laterally and show no lateral or up-or downward slant.

Description of the injection site of the anterior thigh:

The injections are made strictly sagitally in the lateral half of the middle third of the anterior aspect of the thigh where the quadriceps muscle serves as the receptive area. The medial border of the M. rectus femoris is the utmost topographical limitation medially. Also avoided should be the proximal third of the thigh since important neurovascular structures are situated antero-mesially.

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A MATTER OF OPINION

ARE WE WELL FED? WHO KNOWS?*

By Cortez F. Enloe, Jr., M.D.

When one studies the descriptive titles of the grants now being made for research in nutrition and reflects on the nutritional problems faced by large segments of American society, it seems that something's out of kilter. There is a dissonance between what we could be doing with this time, talent and money and what is being done. We don't appear to be applying our material and intellectual resources as well as we might to solve the solvable nutrition problems that face too many children and adults and elderly and poor in our country. It's time to reexamine some of the goals of nutrition research in America.

There is so much talk these days about overpopulation and starvation elsewhere in the world that it is easy to lose sight of the fact all is not well right here at home. When it comes to setting priorities for our talents, we as "haves" are all too often made to feel guilty about the lot of the "have nots" by declaring that since we have such an abundance of food, there is little or no malnutrition in the United States. Every time a ship sails from an American port, laden with grain to fill the mouths of the hungry in some impoverished land, there is a little less inclination to accept the idea that there may very well be malnutrition within our own borders that we could do something about.

If we are honest with ourselves, we will admit there is at least the possibility that too many Americans are not well fed at all. Dr. William H. Stewart, the Surgeon General of the U. S. Public Health Service, in testifying before a Senate committee pointed out that while we had been able to conduct nutrition surveys all over the world, "We do not know the extent of malnutrition anywhere in the United States." Apparently, until recently, we have never been sufficiently motivated to carry out such studies in this country. Thankfully, the Secretary of Health, Education, and Welfare is now organizing a nutritional survey in certain poverty areas of the United States that may throw some light on this dimly lit subject. This is a step in the right direction and it deserves the widest support.

Fredrick J. Stare of Harvard, who has done as much as anyone in America to awaken the public to the need for good nutrition, has written repeatedly and lectured from one end of the country to the other on the importance of the implantation of preference for good food in the earliest possible moment of childhood, but just how much preference has thus been implanted? Who knows?

Talk to any grade-school teacher or a perceptive school nurse. Ask them about the number of pretty little six-, seven- and eight-year-olds who trudge to school each morning without breakfast. You will certainly be alarmed at the answer you get. Here is a budding nutrition problem that borders on the scandalous. What is the meaning of this lack of what nearly everyone regards as the most essential meal of the day for these little children who are still growing and who are struggling to learn? What does this do to their ability to learn? What does it do to their present and future health? What can be done about it? Who knows?

One of the best organized studies on the nutritional status of our teenagers has now expired at midpoint, starved from the lack of the two vital foods: motivation and money. Yet

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Reprinted with permission from **Nutrition Today**, March 1968.

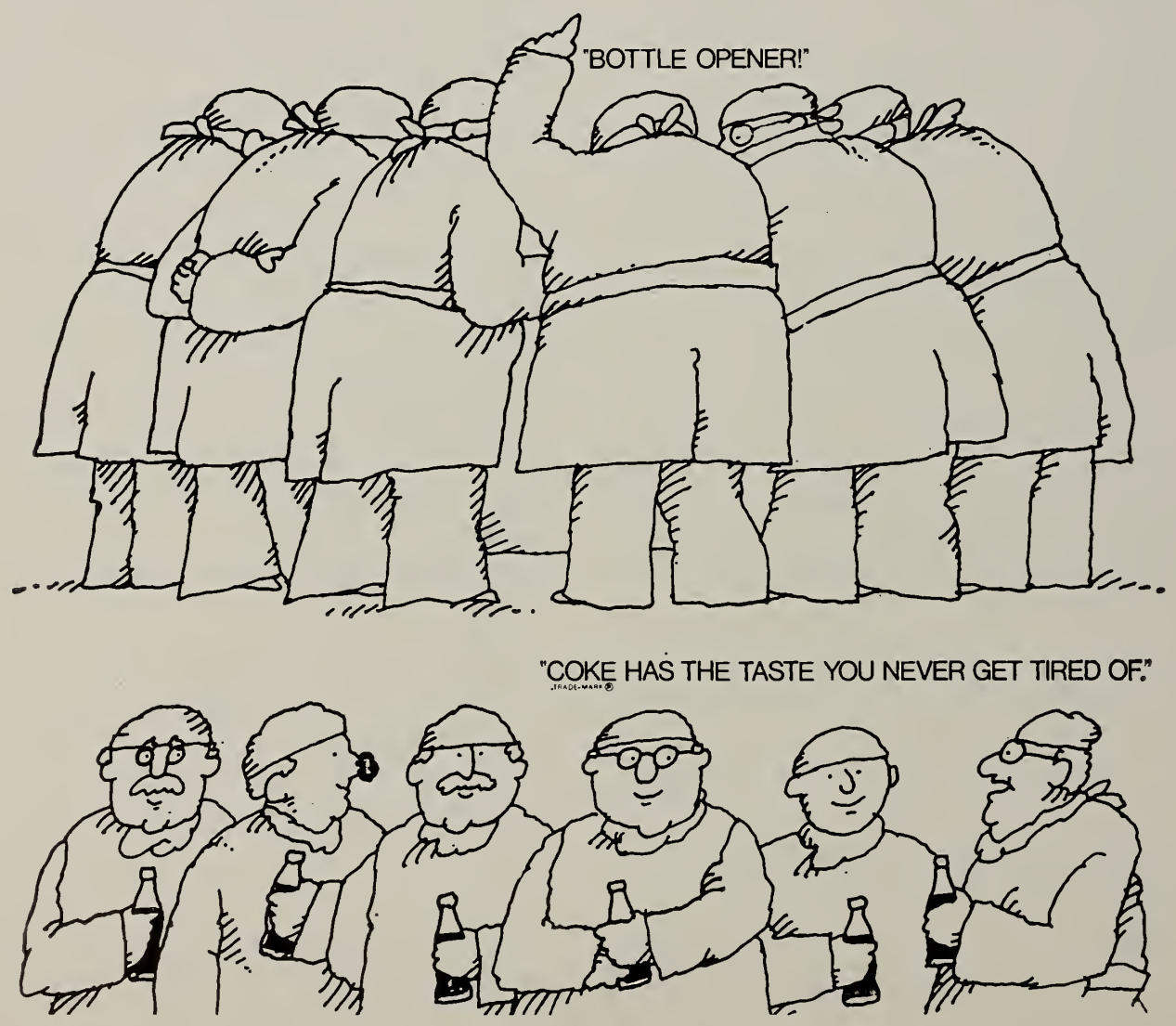
what is the nutritional status of our young people? We know that they are undergoing the most stressful period of their lives. We know their food demands are tremendous, and we know they develop all sorts of faulty eating habits. How well nourished are these young children in America? They look healthy. So do the Watusi. But, are our youngsters indeed well nourished? Who knows?

Middle-age obesity is said to be the major illness in our land today. That the clinicians who see obese patients need the help of the nutritionist is evident from the fact that the practicing physicians' record in trying to get a firm grasp on this nettle is less than enviable. Because clinicians don't seem to be able to cope with obesity and it has not been given the attention in research that a national disease deserves, the quacks and the charlatans have moved in. What can be done about obesity? Who knows?

A little over a year ago, the American people made a commitment to pay for the medical care of our elderly citizens. This is a very large and costly undertaking. Anything that can be done to improve the health of the older people is not only a moral obligation but economically wise. It is, therefore, surprising to find that the list of grants for research this year reveals little curiosity about the nutritional problems of the elderly. Is there anything we know about nutrition that would return some of them to productivity and brighten their remaining years? Who knows?

It is generally accepted that poverty and undernourishment are bedfellows. The economists know where to find the poverty, but can we spot the undernourishment? Considering this parallel, malnutrition is undoubtedly prevalent in Appalachia, in our slums and in certain rural areas. It's not hard to imagine that there are enough interesting problems in these places to whet the intellectual appetites of a small army of nutritionists. But is anybody shipping "Incaparina" to Harlem? What is the effect of this undernourishment on these people, on our economy, on our society? Is it this that freezes them into the hard core of unemployables that so vexes our social planners? To what extent is nutritional status to blame for the predicament of the poor, seemingly uneducable Negro whose plight in this land of plenty is offensive to Christian decency? Who knows?

(Continued on Page 54)



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GRANDPA'S GRANDPA*

Grandpa's Grandpa was scheduled to die tomorrow, but three members of the family said they positively couldn't get away for his funeral any time soon, so the demise of Grandpa's Grandpa was postponed again, giving him his sixth new lease on life.

He's a very old man now and a lot of grandpas have come and gone in our family in his time. That's why we call him GG for short, to tell him apart from the others.

GG died once, but at the time he was in the hospital having surgery for a hernia. When his failing heart stopped, they hooked him up to an artificial heart and restored his life. That was more than 50 years ago, when GG was about 75, and the doctors and nurses who performed that hook-up are now gone.

What with social security, medicare, and his annuity, GG has always had good care and has never really been an invalid. He has had a couple of leg fractures and an occasional bout of asthma or indigestion, but on the whole his health is good, considering his 125 years. He weighs only 90 pounds, so it doesn't cost much to keep him — two small meals a day and a bit of wine. He doesn't smoke and he sits so still that his clothing lasts for years, although it does get somewhat unfashionable.

The consensus seems to be that GG has a good disposition, otherwise the family would have let him die long ago — by just stealing the battery that runs his heart, for instance, or simply failing to replace it with a new one in June, causing a sure summer funeral.

About the time I was born, GG turned 100. That was the year when the family first decided that they should let GG pass away, a decision that, I understand, didn't come easily, but took the best part of an afternoon.

There was considerable opposition to letting GG die, mainly because he was not really in poor health for a man his age. But it was admitted that, altho he had a heart in good working order, his brain was badly run down.

By a slim majority, GG was doomed. And then he was resurrected. Someone, who had reached a pretty high station in life by living by the rules, noted that a quorum was not present.

After that first meeting, the subject of GG's funeral didn't come up again for years, possibly because his health seemed to be getting even better, but probably because GG was becoming an asset while his heirs became fewer and fewer.

A small sum of money he had once invested had grown quite large over the years because he used little of the income and the rest just kept accumulating and compounding.

In the summer of his 110th year GG's fate was again discussed at a family meeting. No one mentioned it openly, I've been told, but everyone knew that if GG was allowed to die then, a no-good grandnephew would get a sizeable portion of the estate.

The vote was in favor of keeping GG with us, and a farsighted vote it was because the no-good heir passed on within the year.

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* Reprinted with permission from the **Chicago Tribune Magazine,** June 26, 1966, and from The Journal of The American Medical Association, September 26, 1966, Vol. 197, Adv. Page 268, Copyright 1966, by American Medical Association.

With the no-gooder gone, there seemed little reason to prolong the old gentleman's life, so a special session was called. It was noted at the meeting that GG was becoming more forgetful and he sometimes refused to eat. But before the matter came to a vote, a couple of juniors enrolled in premed at one of the universities spoke up and said GG was becoming a valuable research specimen.

The logic of their arguments won over the rest of the family, and GG's funeral was put off for the third time.

At times tho, it almost seemed as if the decision had not been a wise one. During the following winter, GG fell and broke his right leg. Later he fell and broke his left leg. Each time he was hospitalized for six weeks before returning home.

While in the hospital, the artificial prolongation of his life, which everybody agreed was really quite useless, became the subject of widespread debate among doctors, nurses, medical students, and orderlies.

Merely removing the stimulus to the artificial heart could not be considered murder, the argument went. After all, God had created GG with a heart and the heart was still present in the body. If the heart machine were turned off, then it was God's decision whether GG's human heart would function.

A meeting of the clan was called to discuss the wisdom of keeping GG alive, especially in the light of community pressure and gossip. But the family closed ranks — no outsiders were going to tell them what to do with their poor old Grandpa's Grandpa.

The fifth "make-the-decision" session, the first that I've attended, was rather serious because the nature of the problem had changed. A miraculous device had been invented which, if installed, would prolong GG's life indefinitely, possibly for hundreds of years.

Many problems had been created by the invention of that device, not the least of which was how to justify **not** using the machine. When Grandpa, at age 75, had become the recipient of an artificial heart, his existence had been presented to a future generation, to prolong or end as it thought best.

This new twist to the GG problem completely broke down the decision-making process. No decision was made — as I said before, three members of the family ended the discussion when they said they couldn't make it to a funeral, altho we all knew that they really could.

So GG is 125 today, and I couldn't help thinking during the meeting . . .

The surgeon put a ticker in
To keep our Gramp alive.
But who will turn the gadget off
At a hundred twenty-five?
We often call a problem solved
Because it goes away.
And then we find to our chagrin
The same one's there next day.
But progress is our way of life,
So why should it seem strange
If the questions must remain the same,
It's the answers that we'll change.

Walter C. Bornemeier, M.D.
Chicago

WELL FED?—

(Continued from Page 52)

These are some of the problems that exist here in our own backyard. They cry out for recognition and solution.

The time has come when we as physicians, dietitians and nutritionists — scientists all — must ask ourselves whether the people of America are really well fed. We are the only ones who can know. It's time we looked homeward. It's time we found out.

ETHICS—

(Continued from Page 46)

personal or family physician, the first physician should withdraw. Should the patient, his family or his responsible friend wish some one other than him who has been in charge of the case, the patient or his representative should advise the personal or family physician of his desire. When, because of illness or accident, a patient is taken to a hospital without the knowledge of the physician who is known to be the personal or family physician, the patient should be returned to the care of the personal or family physician as soon as is feasible.

WASHINGTON—

(Continued from Page 48)

Dr. James A. Shannon, Director of the National Institutes of Health, was named Director of the newly constituted NIH. Dr. Robert Q. Marston, Director of the Division of Regional Medical Programs, was named Acting Administrator of the Health Services and Mental Health Administration. Dr. Goddard continues as Commissioner of Food and Drugs. The heads of these three agencies will report directly to Dr. Lee under the new organizational setup.

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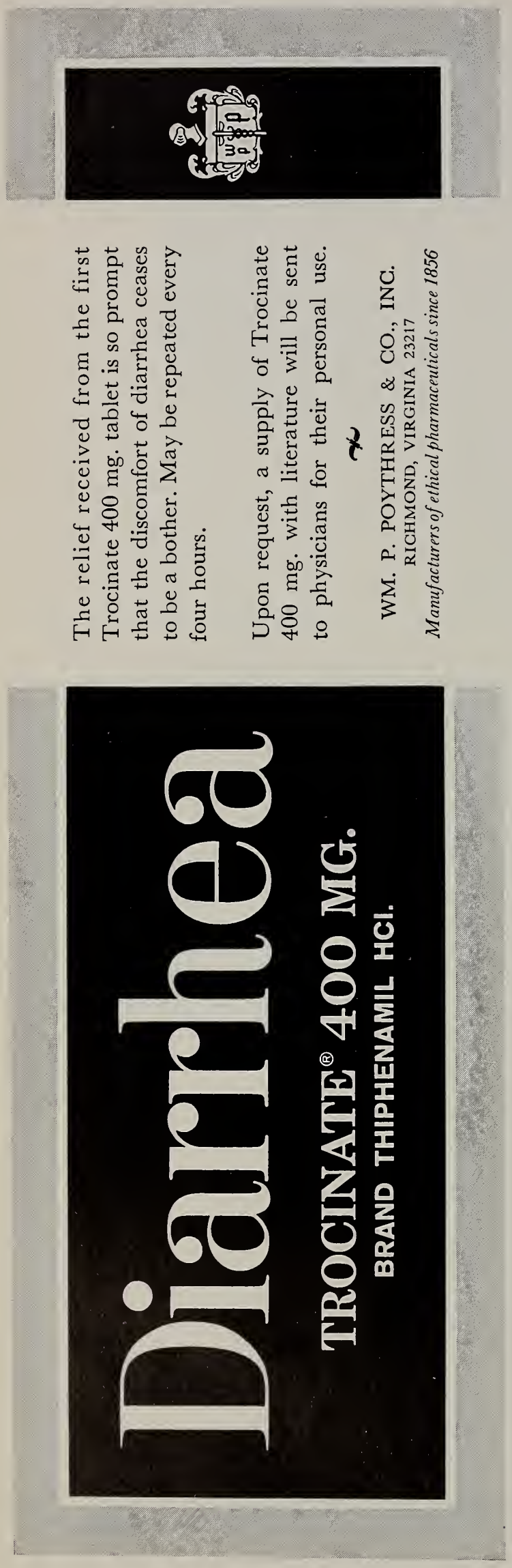

COMMUNITY ACTION NEEDED IN EMERGENCY MEDICAL SERVICES

The development of systematic community action programs in emergency medical services was the major theme of discussion during the recent AMA National Conference, "The Community and Emergency Medical Services." The Conference, which brought together representatives of all organizations and groups with special interests in various aspects of the emergency medical service system, was held January 18-20, 1968 in San Francisco.

Basic in the development of a systematic approach to solving emergency medical service problems within the community is an **organizational structure** which will assure that the community's citizens are provided with the most up-to-date methods of first aid and emergency care and the highest quality emergency facilities, transportation, and communications systems.

The organizational structure should include representatives of the medical society, local health department, area hospital administrators, fire and police personnel, traffic and highway safety groups, providers of ambulance services, voluntary health agencies, and representatives of civic organizations. These individuals collectively form what may be termed the community council on emergency medical services. By utilizing existing efforts, agencies, facilities and services within the community, the council can initiate organized action programs.

First in importance in such a program is a thorough **evaluation** of the existing emergency service system within the community. Deficiencies may be found in all areas of the system, including basic first-aid training programs for adults as well as school children, ambulance service standards, communications systems, hospital emergency facilities, standards of care, and adequacy of manpower to meet both minor and major emergency conditions.

The deficiencies found in the system after thorough evaluation must then become the problem of the entire community. Only by a coordinated and systematic effort on a community-wide scale can these deficiencies be eliminated.

Reprinted from the **Medical Staff-in-Action,** April 1968 issue, Vol. 3, No. 2.

The American Medical Association's Commission on Emergency Medical Services, an interdisciplinary board composed of several medical organizations, has designated the development of community-wide programs as the first step to EMS upgrading. The Commission's recent publication, "Suggestions for Community Action on Emergency Medical Services," contains guides and suggestions for the formation of these programs. Copies may be obtained by writing the AMA Commission on Emergency Medical Services, 535 North Dearborn Street, Chicago, Illinois 60610.

TRAINING "GUIDELINES" ADDRESS PATIENT AND BILLING PROBLEMS

Intern and resident training programs can be assured a sufficient number of patients if:

1) all physicians on the staffs of hospitals or medical schools with formal training programs participate in these programs;

2) patients admitted to hospitals by their physicians remain under the care of that physician who, in giving care, with the patient's knowledge and consent, will cooperate as far as possible with the training program; and if

3) medical societies and hospital associations engage in a combined program of education to insure a sufficient number of patients for medical training programs in accredited hospitals.

These recommendations, adopted in recognition of a threat posed to hospital intern and resident training programs by the number of medically indigent patients now able to choose their private physicians through voluntary insurance, Medicare, and Medicaid programs, are contained in the AMA's "Guidelines for Medical Staffs in Hospitals with Intern and Resident Training Programs."

The "Guidelines," adopted by the House of Delegates in November, 1967, also address the problem of billing for patients admitted to teaching services. They recommend that physicians of record should collect fees for the care of these patients as for other private patients, and that hospital medical staffs or organizations representing the medical staff may bill for medical services rendered to patients on behalf of and only with the authorization of the attending physician. They stress that a hospital or med-

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ical school may not participate in the fees collected for medical services.

Concerning distribution of funds, the "Guidelines" recommend that fees collected by or for the medical staff should be distributed solely on the direction of the medical staff without coercion of any kind and in accordance with agreements previously reached by the physicians comprising the medical staff and the hospital or medical school. In addition, all members of the medical staff who render service to these patients and for whom fees are collected by the staff should have equal voting rights in determining the distribution of the funds collected. Full-time salaried physicians may participate in funds in proportion to the percentage of their total salary ascribed to actual patient care.

The "Guidelines" also suggest that medical staffs entering into agreements for the collection of fees seek appropriate advice concerning the legal and tax implications of such arrangements.

NEW DIRECTIONS FOR MEDICAL EDUCATION

The goal of producing more doctors for Minnesota seems a little closer as a result of two new developments. The state Senate Interim Committee on Medical Education has issued a clear challenge to groups and institutions interested in sponsoring a second medical school to define their plans in detail and meet specific standards. Almost simultaneously, regents of the University of Minnesota announced a broad proposal to expand its program of medical education.

The two actions, though separate and somewhat different, may bolster each other in helping the next state legislature and the state's medical educators to arrive at better answers to the doctor shortage.

The senate committee statement puts strong emphasis on primary health care and family practice. It urges sure distribution of doctors into rural areas and city ghettos, along with innovation in the way health services are organized and offered to the public. It asks for cost figures and plans which would result in 100 more physicians a year.

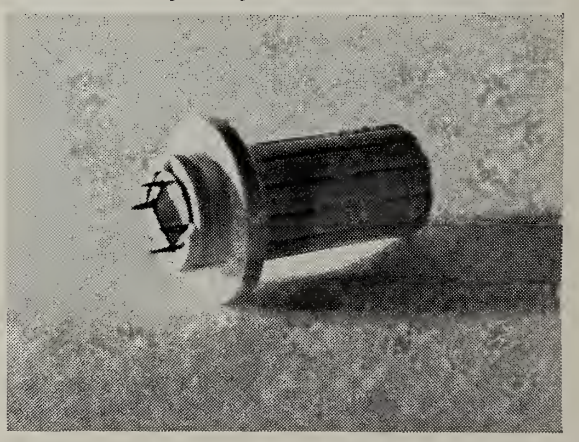
The regents' comprehensive plan includes expansion of the present medical school (to 65 more graduates a year), a new department of family practice and community health, and higher enrollments in other health science programs. A gradual extension of medical training in St. Paul, and then Duluth, probably would mean evolution toward a second, and perhaps third, medical school affiliated with the university. The regents also kept the door open for possible developments in Rochester, offering to co-operate with the Mayo Clinic in studying the feasibility of a "nationally-oriented" school there.

Legislators involved in this issue, sensibly, are determined to reverse the trend which has made the general practitioner and the small-town doctor scarce. This will require more than additional medical students and a revised curriculum. It also calls for new systems of high-quality health services in less populous areas — systems which young doctors will find as challenging professionally as most of them now find specialty practice in big cities.

Reprinted from **Minneapolis Tribune,** April 23, 1968.

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.



TUBERCULIN, TINE TEST (Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

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MINUTES OF THE COUNCIL MEETING

10:30 a.m. **Sheraton-Cataract Hotel**
April 20, 1968 **Sioux Falls, South Dakota**

The meeting was called to order at 10:45 a.m. Present for roll call were Doctors: John J. Stransky, John T. Elston, A. P. Reding, P. P. Brogdon, E. J. Perry, G. Robert Bartron, J. A. Muggly, A. J. Tieszen, Winston Odland, Harvard Lewis, E. T. Lietzke, Clark Johnson, M. R. Cosand, H. H. Brauer, G. E. Tracy and Robert Giebink.

Dr. Reding moved to dispense with the reading of the minutes of the last meeting inasmuch as they were published in the Journal. The motion was seconded by Dr. Brauer and carried.

Dr. Lewis moved that Dr. Winston Odland be accepted as Councilor Pro Tem from the Huron District inasmuch as Fred Leigh, M.D. has resigned. The motion was seconded by Dr. Muggly and carried.

COMMISSION ON SCIENTIFIC MEDICINE

Saturday, March 9, 1968 **East Room**
9:30 A.M. **Sheraton-Cataract Hotel**
Sioux Falls, South Dakota

The meeting was called to order by Bruce Lushbough, M.D., Chairman of the Commission on Scientific Medicine. Those present for roll call were Doctors: Bruce Lushbough, Robert Nelson, Alvin C. Vogele, E. H. Heinrichs, Noel deDianous and James C. Larson. Irvin S. Belzer, M.D., T. B. Control Officer of the State Health Department, also attended.

A discussion was held concerning the T.B. control program for the state of South Dakota. Dr. Nelson moved that the commission recommend to the Council that letters be sent to the local districts informing them that a T.B. program is available for district meetings through the T.B. centers in Rapid City, Sioux Falls and Watertown and encouraging the districts to utilize these informational programs. The motion was seconded by Dr. Vogele and carried.

Dr. deDianous moved that, if Richard B. Leander, M.D. has not secured a speaker for the 1968 annual meeting, the 45 minute vacancy be filled by a T.B. panel discussion including Irvin Belzer, M.D., H. Streeter Shining, M.D., Robert Nelson, M.D. and Gerald Tracy, M.D. The motion was seconded by Dr. Heinrichs and carried.

E. H. Heinrichs, M.D. moved that the commission recommend to the Council that H. Streeter Shining, M.D. be recommended as medical consultant to the State T. B. Program. The motion was seconded by Dr. deDianous and carried.

Dr. Heinrichs read a letter regarding the course on clinical management and control of tuberculosis to be held in Denver, Colorado and Rome, Georgia.

COPY

To: Bruce Lushbough, M.D.

At the last meeting of the Commission on Scientific Medicine, you asked me to investigate the possibility of postgraduate courses in the fields of TBC and VD.

I have the following reports: Courses for the "Clinical Management and Control of Tuberculosis" are held during the year 1968, in Denver, Colorado and Rome, Georgia. The dates are:

March 25	—	April 5	in Rome
May 6	—	May 7	in Rome
June 17	—	June 28	in Rome
July 29	—	August 9	in Denver
August 19	—	August 30	in Rome
September 23	—	October 4	in Rome
October 21	—	November 1	in Denver

Our state should frequent the courses in Denver under normal conditions. These courses are designed for those physicians who are working in treatment centers which are presently established throughout the state.

For the courses in both Denver and Rome, applications should be directed to the South Dakota State TB Control Officer, Dr. I. R. Belzer, Pierre, South Dakota. A copy of the pertinent brochure is enclosed.

Similar courses in the field of VD do not exist. However, my conversation with Jerome Kern, Program Director for the South Dakota Venereal Disease Control Program has opened up another avenue of education: The Public Health Service is tentatively willing to arrange workshops in the field of VD, TBC and Vaccination Assistance. I have discussed this also with Dr. Belzer and John Jones, Program Director, South Dakota Vaccination Assistance Program.

In order to embrace as many physicians as possible, we propose to hold workshops at the South Dakota Medical Association Meeting, 1969, (Watertown tentatively) in the following areas:

1.) Tuberculosis Control and Management
2.) VD - Control and Management
3.) Present Status of Vaccinations

to be held by consultants of choice of the Commission on Scientific Medicine. It should be pointed out that the matter has a certain urgency, since budget terminations of the State and Federal Agencies involved require a decision now about our acceptance of this offer.

In order to offer a fourth workshop, I would propose:

4.) Rheumatic Fever — Management and Prevention which would be sponsored by the Wyeth Company.

To make the program worthwhile, I propose further that these workshops, after being held on a Tuesday afternoon, be repeated the next day in Rapid City in order to give those physicians an opportunity to participate who were unable to hear them in the East River area. A possibility to offer the whole group also to the PH Indian Medical Service was also discussed.

I do not have to mention that the omission of workshops at the State Meeting in Aberdeen is most regrettable, however, I believe that the limitations of space which demanded this in 1968, will not exist in Watertown. On the other side, monetary motives are automatically excluded by the above arrangement.

I propose the acceptance of my report.

E. H. Heinrichs, M.D.

Dr. Heinrichs moved for the acceptance of his report. The motion was seconded by Dr. Nelson and carried.

Dr. Nelson moved that the Commission on Scientific Medicine provide a national speaker and a workshop on T.B. at the 1969 annual meeting program. The motion was seconded by Dr. Vogele and carried. It was decided that Dr. Belzer would forward recommendations for a national speaker on T.B. to Dr. Lushbough and would also investigate the possibility of receiving federal funds for the financing of this speaker.

Dr. Belzer requested that the commission issue a statement concerning INH Prophylaxis for physicians in general and that this statement along with a pamphlet be sent to all doctors in South Dakota. Dr. Nelson moved that the commission request permission from the Council to send a statement from the Commission on Scientific Medicine to all members of the State Medical Association calling their attention to the fact that there is an enormous amount of evidence which demonstrates the efficacy of INH Prophylaxis in the prevention of active T.B. in all people who have positive tuberculin skin tests and no previous antimicrobial treatment. The motion was seconded by Dr. Larson and carried. It was decided that Dr. Belzer would prepare a statement regarding INH Prophylaxis and forward it to the executive office and that Dr. deDianous would provide 500 pamphlets to the executive office for distribution along with the statement, if approved by the Council.

Dr. Belzer reported, as a matter of information, on a meeting of the Health Department and school board officials recommending that all school teachers and employees be checked for T.B. every three years.

Dr. Lushbough briefly outlined the annual meeting program format. The program was approved as it stands.

Dr. Vogele discussed the resolution from the Aberdeen District Medical Society concerning the annual meeting format. Dr. Larson moved that the commission recommend to the Council that the Commission on Scientific Medicine appreciates the recommendations of the Aberdeen District Medical Society and that the commission will take these suggestions under consideration for the 1969 annual meeting program inasmuch as plans are complete for the 1968 program. The motion was seconded by Dr. Vogele and carried.

Dr. Lushbough, as Chairman of the Commission on Scientific Medicine, will be responsible for contacting two other commission members on Monday, May 20, and judging the scientific booths for the Aesculapius Award given by the Mead Johnson Company.

Dr. Vogele suggested that he contact a speaker on cancer chemotherapy for the 1969 annual meeting program. He will also contact Mead Johnson for assistance in underwriting the speaker's expenses and will report his progress to Dr. Lushbough. The commission approved his suggestion.

Dr. deDianous moved that the meeting be adjourned. The motion was seconded by Dr. Larson and carried.

Mr. Erickson discussed the report of the Commission on Scientific Medicine. The Council approved the recommendation of the Commission to send letters to the various districts informing them of the availability of TB programs for local meetings. Dr. Clark Johnson moved that H. Streeter Shining, M.D. be named as medical consultant for the TB program in South Dakota. The motion was seconded by Dr. Tieszen and carried. Dr. Muggly moved that the Council approve the Commission's request to send a letter and a pamphlet informing physicians of trends in treating TB. The motion was seconded by Dr. Cosand and carried. Dr. Elston moved that the Council accept the report of the Commission on Scientific Medicine. The motion was seconded by Dr. Muggly and carried.

Dr. Bartron reported on the activities of the Commission on Legislation and Governmental Relations.

COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

Saturday, March 9, 1968 **Lamp Room**
1:30 P.M. **Sheraton-Cataract Hotel**
Sioux Falls, South Dakota

The meeting was called to order by G. Robert Bartron, M.D., Chairman of the Commission on Legislation and Governmental Relations. Those present for roll call were Doctors: G. Robert Bartron, R. J. Bareis, J. B. Gregg, Richard W. Honke, Robert J. Foley and Howard R. Wold. Richard C. Erickson, Executive Secretary, also attended.

Mr. Erickson reviewed the bills introduced during the 1968 legislative session which were of interest to the medical profession.

A discussion was held on the Inhalation Therapy Bill which is drawn in its final form but was not submitted to the legislature this year. Robert J. Foley, M.D. moved that the commission invite Gerald F. Tuohy, M.D. and E. H. Heinrichs, M.D. to the fall meeting to discuss whether or not the State Medical Association should introduce this bill during the 1969 legislative session. The motion was seconded by Dr. Bartron and carried.

A brief discussion was held regarding the Abortion Bill. It was decided that the Association should reaffirm last year's stand if a bill should be introduced at the 1969 legislative session.

An extension of the "Good Samaritan Law" which would include all people rendering emergency first aid was discussed. The commission decided that the executive office should contact Mr. Warren May, Attorney for the Association, and get his opinion of this proposed law and consider the matter at the fall meeting.

Mr. Erickson presented information regarding the Medical Practice Act in South Dakota. Dr. Wold moved that a recommendation be made to the Council asking that the South Dakota State Board of Medical and Osteopathic Examiners review and take under advisement the present Medical Practice Act. The motion was seconded by Dr. Bartron and carried.

A brief discussion regarding national legislation was held. Dr. Gregg requested that the executive office furnish him with information regarding whether or not the federal government will pay for the travel expenses of members of the Utilization and Review Committees.

Dr. Gregg discussed the licensing of speech and hearing people and asked that the commission consider this at its fall meeting.

Dr. Bareis moved that the meeting be adjourned. The motion was seconded by Dr. Honke and carried.

Dr. Cosand moved that the Council request that the Board of Examiners review and take under advisement the present Medical Practice Act. The motion was seconded by Dr. Stransky and carried. Dr. Bartron moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Elston and carried.

COMMISSION ON INTERNAL AFFAIRS

Saturday, March 9, 1968 **South Room**
9:30 A.M. **Sheraton-Cataract Hotel**
Sioux Falls, South Dakota

The meeting of the Commission on Internal Affairs was called to order by Bernard Begley, M.D., Chairman. Those members present for roll call were Doctors: B. J. Begley, C. Rodney Stoltz, Richard G. Belatti, Saul Friefeld and Bernard T. Lenz. Also attending were E. W. Sanderson, M.D. and Richard C. Erickson, Executive Secretary of the State Medical Association.

Dr. Stoltz reviewed the by-laws and indicated that at the present time he felt no changes should be made. The commission accepted his report and recommended that no changes be made in the by-laws at the present time.

A discussion was held concerning the present status of the Benevolent Fund. The discussion centered around whether both the Auxiliary and the Association should continue to donate to the Benevolent Fund each year. Dr. Stoltz moved that a recommendation be made to the Council that no further funds be contributed to the Benevolent Fund beginning with the next fiscal year. It is recommended that this action be taken in conjunction with the Auxiliary. The motion was seconded by Dr. Friefeld and carried.

Dr. Stoltz moved that a special committee consisting of members from the Commission on Internal Affairs continue to study and make recommendations as to future uses for the funds now held in the Benevolent Fund. The motion was seconded by Dr. Belatti and carried. Dr. Begley then appointed Dr. Stoltz and Dr. Lenz to act as a special committee and to study in conjunction with the Auxiliary possible uses for the money in the Benevolent Fund.

A discussion was held concerning a proposal to separate the Blue Shield and Medical Association offices into two separate organizations. Dr. Sanderson proposed that a full time Executive Secretary be hired for the State Medical Association in addition to a full time Executive Director for Blue Shield. The commission spent considerable time questioning Mr. Erickson concerning costs and operations under the present system. Dr. Sanderson made several suggestions as to how money might be provided for a full time Executive Secretary for the Medical Association. Dr. John Stransky, President of the Association, was in attendance at the meeting at this time and discussed the matter as to the problems involved in separating the two offices. Dr. Friefeld moved that the commission note in the minutes that discussion was held concerning the separation of the two organizations and that the commission feels that no recommendation should be made at this time. The motion was seconded by Dr. Belatti and carried.

A discussion was held regarding curtailment of certain Medical Association expenditures. The following recommendations were made by the commission to be presented to the Council:

1. Clinical Pathology budget in the amount of $600 be eliminated completely.
2. Association discontinue paying the cost of the Endowment Association's ad in the Journal.
3. The cost of the printing of the Auxiliary Newsletter be transferred to the Journal.
4. Certain expenditures in conjunction with the annual meeting will be cut to some extent this year; however we will have to wait and see what develops after all the bills are in for the 1968 annual meeting.

A discussion was held concerning a dues increase for members of the State Medical Association. It was the feeling of the commission that no recommendation should be made at the present time.

The commission took note of a suggestion that the State Medical Association provide some travel expense for the Dean of the Medical School to in-state and national meetings. The commission requested that Mr. Erickson investigate the matter further to determine what type of expenses are available to the Dean for travel and at a later date the commission can discuss the matter when facts are presented.

Discussion was held concerning the printing of uniform claim forms by the Association for free distribution to the physicians. It was felt that the Association should charge for the forms in the future. Mr. Erickson felt that perhaps Blue Shield could assume about 90% of the cost in the future so that forms could continue to be distributed free. This is not a yearly item, but involves a cost of about $1,700.

Mr. Erickson reviewed the report of the Commission on Internal Affairs. Dr. Reding moved that the Association discontinue its annual donation to the Benevolent Fund and consider possible uses for the money already in the fund in conjunction with the Woman's Auxiliary. The motion was seconded by Dr. Muggly and carried. A discussion was held regarding elimination of the $600 donation made by the Association to Clinical Pathology. Dr. Stransky moved that this item be tabled until the next Council meeting when the Association will have more information regarding the necessity of its donation to the Clinical Pathology Workshops. The motion was seconded by Dr. Cosand and carried. Dr. Odland moved that the Association discontinue paying for the Endowment ad in the Journal. The motion was seconded by Dr. Johnson and carried. Dr. Perry moved that the Council accept the report of the Commission on Internal Affairs. The motion was seconded by Dr. Brauer and carried.

COMMISSION ON COMMUNICATIONS

Saturday, March 9, 1968 **East Room**
1:30 P.M. **Sheraton-Cataract Hotel**
Sioux Falls, South Dakota

The meeting was called to order by R. R. Giebink, M.D., chairman. The following members were present for roll call: Doctors Robert R. Giebink, Bernard F. King, B. O. Lindbloom, Harry H. Brauer, Robert E. Van Demark and Donald L. Scheller. Also present was Robert D. Johnson, Public and Professional Relations Director, State Medical Association.

A discussion was held concerning the booth to be at the State Fair. The Commission directed Mr. Johnson to contact the State Fair Committee and indicate to them that the Commission wished to have a building other than the building which housed the exhibit last year. The Commission's first choice was the Women's Building and second choice was the Appliance Building.

Mr. Johnson was to contact the American Medical Association and order the Display #130, Organs of the Body, which would be used as the display.

Mr. Johnson was directed to contact the deans of the medical schools to see if any medical students might possibly be interested in helping man the booth during the State Fair. He was to also set up a schedule for the members of the Commission, having two doctors each day at the State Fair to help with the booth.

Dr. Giebink stated that he would attempt to get mannequins from the University, etc., for display.

The Commission referred to the Council the possibility of obtaining public service spots on radio and television. Mr. Johnson was to contact the Minnesota State Medical Association and inquire about their program, "Ask Your Doctor."

The Commission determined that for Community Health Week, one editorial would be selected and this editorial would be sent to each member of the Commission. The Commission member was responsible for contacting the District President to get his signature on the editorial and possibly include a copy of the Governor's Declaration for Community Health Week. An effort should be made to have these articles in the paper during Community Health Week.

No action was taken at this time regarding the Teenage Alert Project in high schools.

The Commission referred to the Council the possibility of Scouting Explorer Posts. Possibly the Scout Fieldman would set up a meeting with the District Societies of his area.

No action was taken regarding the Future Physicians Clubs in high schools.

Mr. Johnson was instructed to contact the American Medical Association regarding the film "Horizons Unlimited." He was to obtain information as to the length, cost, rental, purchase price, etc. It was suggested the schools in Sioux Falls be contacted for presenting this film to the pupils.

The Commission referred to the Council the possibility of contacting the Educational Stations in South Dakota as to the possibility of utilizing time for presenting a program such as "Ask Your Doctor," etc., or also presenting the film "Horizons Unlimited."

A discussion was held concerning fluoridation in the state. No action was taken.

Dr. Van Demark discussed the "Journal" with the Commission. Dr. King moved that the Council of the State Medical Association designate the members of the Commission on Communication (one from each District) to see that papers are submitted to the "Journal" and to eliminate the Editorial and Publication Committees. Motion was seconded by Dr. Lindbloom and carried.

The Commission also asked that Dr. Van Demark set forth the procedures on obtaining papers, i.e., publication, reprints, etc.

A discussion was held concerning the physician shortage in the state of South Dakota. No action was taken.

Mr. Erickson discussed with the Commission the position of Mr. Johnson as public and professional relations director.

Meeting adjourned at 3:30 p.m.

Mr. Johnson discussed the report of the Commission on Communications. The Council approved the recommendations of the Commission including investigating the possibility of public service spots on radio and T.V., establishing Boy Scout Explorer Posts, investigating the use of educational T.V. in South Dakota and eliminating the Publications and Editorial Committee of the Journal and utilizing the Commission on Communications in this capacity. Dr. Perry moved that the Council accept the report of the Commission on Communications. The motion was seconded by Dr. Lewis and carried.

COMMISSION ON LIAISON WITH ALLIED ORGANIZATIONS

Saturday, March 9, 1968 **Lamp Room**
9:30 A.M. **Sheraton-Cataract Hotel**
Sioux Falls, South Dakota

The meeting was called to order by David J. Buchanan, M.D., Chairman of the Commission on Liaison With Allied Organizations. Those present for roll call were Doctors: David J. Buchanan, V. V. Volin, Jerry Walton and D. L. Ensberg. Also present was Robert D. Johnson, Public and Professional Relations Director for the State Medical Association.

Dr. Buchanan stated that G. E. Tracy, M.D. would be speaking at the Nursing Association's Workshop on April 18 and 19. A discussion followed concerning the nursing schools in the state of South Dakota. It

was suggested that a panel discussion could be conducted at a meeting with the panel composed of heads of the nursing schools in the state. Dr. Volin moved that the nursing needs of South Dakota would be better served in South Dakota if the various nursing programs could be better correlated. The motion was seconded by Jerry Walton, M.D. and carried.

Dr. Buchanan read the letter from Stan Siegel of the State Bar Association.

THE STATE BAR OF SOUTH DAKOTA

January 12, 1968

Mr. Richard C. Erickson
South Dakota State Medical Association
711 North Lake
Sioux Falls, South Dakota

Dear Dick:

Following up on our discussion in Pierre earlier this week, I surely hope that the State Medical Association will see fit to reverse the position recently taken concerning the abandonment of our medical-legal meetings.

As I stated, and I know you fully agree, cooperation between our professions is not only important but absolutely necessary. We do have some problem areas in our relationship with one another. I know that some doctors have legitimate complaints concerning the conduct of lawyers, and I am satisfied that the contrary is also true. If we discontinue these meetings, even on a temporary basis, it will be a step backward and not at all helpful in the promotion of a continuing healthy relationship.

Dick, I have felt for some time that we have at our previous meetings placed undue emphasis on malpractice matters and an insufficient amount of time upon resolving some of our differences. In fact, I set forth this opinion in a letter on December 11, 1967, to Bill Porter of Rapid City, the Chairman of our State Bar Legal-Medical Committee. I echo your thoughts on the format of the type of meeting we should have. In my opinion we could accomplish a great deal by having panel discussions, with experienced trial lawyers and doctors in the medical-legal field participating, covering the many problem areas which we have. I believe that such a program would be more stimulating, and more beneficial, than some of the programs we have had in the past. It might also result in a better attendance of doctors at these meetings.

Additionally, I like your suggestion that we have a golf tournament, with teams comprised of one doctor and one lawyer, at some appropriate time during or before the meeting. This would, of course, bring us closer together, which is what we are seeking to accomplish (I am putting my claim in right now for Bob Bartron of Watertown!).

Would you take this up with the appropriate Board and then advise me if you are willing to proceed with plans to have another meeting in September of this year. I surely hope that this can be done, and if necessary I will be more than happy to come to Sioux Falls to make a personal appearance before your Board in this regard. Many thanks. Best regards.

Cordially,
Stan Siegel
President

SS:lc
cc: Mr. William K. Sahr
Mr. William G. Porter

The committee recommended that a Medical-Legal Conference not be held this year and that the districts attempt to meet with attorneys at the local level for a program. Dr. Ensberg moved to invite Mr. Siegel or the President of the State Bar Association to meet with the commission at its next meeting to discuss future plans for a Medical-Legal Seminar. No further action will be taken until the commission has met with Mr. Siegel.

A discussion was held concerning the Osteopathic Association and the Chiropractic Association. No action was taken.

A discussion was held concerning the Pharmaceutical Association. Jerry Walton, M.D. moved that the commission recommend a joint meeting with the Pharmaceutical Committee regarding a few problems, i.e. drugs, etc. Such meeting to be held at the fall commission meeting if possible. The motion was seconded by D. L. Ensberg, M.D. and carried.

The meeting adjourned at 11:30 a.m.

Mr. Erickson discussed the report of the Commission on Liaison With Allied Organizations. The Council approved the Commission's recommendations that no medical-legal meeting be held in 1968, but that plans be made for a meeting in 1969 and that the Commission meet with members of the Pharmaceutical Association in the fall. Dr. Reding moved that the Council accept the report of the Commission on Liaison With Allied Organizations. The motion was seconded by Dr. Odland and carried.

Dr. Tracy presented the report of the Commission on Medical Service.

COMMISSION ON MEDICAL SERVICE

Saturday, March 9, 1968 — Sheraton-Cataract Hotel
1:30 P.M. — Sioux Falls, South Dakota

The meeting was called to order by G. E. Tracy, M.D., Chairman of the Commission. The following members were present for roll call: Doctors G. E. Tracy, T. H. Willcockson, L. H. Amundson, W. R. Taylor, B. C. Gerber, W. B. Odland and Warren Jones. Also present was J. J. Stransky, M.D., President of the Association.

Dr. Taylor reported on the survey of ophthalmologists in the state regarding eye examinations for driver licenses. He obtained a 90% response to the survey—8 physicians felt there should be no change; 4 suggested minor changes; and 1 felt a narrative report should be utilized. Dr. Taylor moved that the Commission recommend the form be retained in its present form but that arrangements be made with the Driver Licensing Bureau in Pierre to handle eye examinations on the same basis as other medical reports — that the reports be mailed directly to the State Licensing office in Pierre and that the doctor be provided an envelope for this purpose. The motion was seconded by Dr. Willcockson and carried. The Commission decided that Dr. Tesar will submit this recommendation to the Council at the next meeting.

Dr. Tracy distributed information on the immunization program in South Dakota to the members in attendance. Copies will be provided to those absent. Dr. Tracy briefly discussed the program in South Dakota and its success in comparison to other states' records.

Dr. Tracy moved that the Commission recommend to the Council that a letter be written to Mr. John Jones of the State Health Department, commending him for his efforts in immunization and his constant use of medical consultants in South Dakota. The motion was seconded by Dr. Taylor and carried.

Dr. Amundson discussed VD control in South Dakota. Dr. Tracy indicated that Mr. Jerry Kerns of the State Health Department is very willing to work with physicians in VD control. He is from the Communicable Disease Center. Dr. Jones moved that the Commission recommend to the Council that the Medical Society suggest the name of a physician to be appointed as the consultant to the state programs on tuberculosis, venereal disease, and immunization. These three physicians would act as a Communicable Disease Advisory Committee to advise the Medical Association and also would act as a liaison group between the public health officials and the medical profession. The motion was seconded by Dr. Taylor and carried. The Commission discussed the importance of naming physicians to the Advisory Committee who would have good working relationships with the state operated programs. The name of Dr. D. Max Reade of Yankton, was suggested as a possible appointment as the VD representative.

Dr. Willcockson moved that the Commission recommend to the Council that a letter be written to the Woman's Auxiliary commending them for their excellent work in the area of VD education. The motion was seconded by Dr. Gerber and carried.

The Commission discussed the resolution concerning the Crippled Children's program which was returned to the Commission by the Council for clarification. Dr. Gerber moved that the resolution be changed to read as follows: Paragraph 4: "There are grave doubts as to the effectiveness and economy of said program, and — etc." and that the resolution be returned to the Council with the recommendation that it be accepted with the stipulation that Dr. E. H. Heinrichs appear at the Council meeting to discuss the resolution. The motion was seconded by Dr. Willcockson and carried.

Dr. Robert Hayes appeared before the Commission to discuss the proposed feasibility study for a four-year medical school, to be underwritten by the American Academy of General Practice. Dr. Tracy discussed alternate plans which could be considered in establishing a four year medical school in South Dakota.

Dr. Willcockson moved that the feasibility study suggested by Dr. Hayes be accepted by the Council; that the Medical Association be named as the sponsoring organization; and that the following stipulations be understood by all interested parties 1) This approach to a four year medical school is one of many possible solutions; 2) The State Medical Association will not be bound by the results of the study; 3) There may be other feasibility studies made before a decision is made on the most appropriate way for South Dakota to proceed. The motion was seconded by Dr. Taylor and carried.

Dr. Tracy reported that R. G. Belatti, M.D. of Madison has been named Rural Health Consultant in South Dakota and he will attend the Rural Health Conference later on this month. Dr. Tracy will also attend this meeting. Dr. Gerber indicated that he has joined the Farm Safety Council and attended a meeting in Pierre in January. He discussed the work of the Council which includes sponsoring the defensive driving courses in South Dakota; sponsorship of the slow moving vehicle emblem; radio and TV spot announcements on farm safety; and tractor safety informational efforts. He discussed a voluntary program of reporting farm accidents and displayed a card used in Iowa for reporting farm accidents. Dr. Gerber moved that the Commission recommend to the Council that the Medical Association become an institutional member of the Farm Safety Council. The motion was seconded by Dr. Taylor and carried. Annual dues would be $10.00.

Dr. Tracy reported on the National Conference on Physicians and Schools which he attended last fall. His comments indicated that South Dakota is doing a good job in this area, with the exception of health education. Dr. Gerber suggested that perhaps at some time in the future a recommendation should be made to the Board of Regents that they investigate the possibility of offering better health education courses in state schools for the benefit of our teachers. No action was taken on this subject.

Dr. Jones discussed the situation in Sioux Falls, regarding the Humane Society and the Kennel Club and litigation which directly concerns the supply of dogs for the medical school. It was determined that this matter should be submitted to the Board of Directors of the Medical School Endowment Association at their annual meeting in May.

Dr. Jones moved that the Commission recommend to the Council that in districts which have school immunization programs in operation, if measles immunizations are not included, it should be suggested that they include measles immunizations in the routine. The motion was seconded by Dr. Willcockson and carried.

The meeting adjourned at 4:00 p.m.

Dr. Bartron moved that the Council recommend to the Driver Licensing Bureau in Pierre that eye examinations be handled on the same basis as other medical reports and that the reports be mailed directly to the State Licensing Office in Pierre. The motion was seconded by Dr. Stransky and carried. Dr. Cosand moved that the Association send a letter to Mr. John Jones, State Health Department, commending him for his efforts in the immunization programs and his constant use of medical consultants in South Dakota. The motion was seconded by Dr. Brauer and carried. Dr. Stransky moved that the President of the State Medical Association for 1968-1969 appoint three members to the Communicable Disease Advisory Committee. The motion was seconded by Dr. Johnson and carried. Dr. Lewis moved that a letter be sent to the Woman's Auxiliary of the State Medical Association commending them for their work in VD education. The motion was seconded by Dr. Perry and carried. Dr. E. H. Heinrichs presented a resolution to the Crippled Children's Program which was sponsored by the Pediatric Society. Dr. Bartron moved that the Commission on Medical Service appoint three members to the advisory committee to study the present Crippled Children's Program and suggest areas for improvement, and that the Association recommend the adoption of the Crippled Children's resolution as amended.

RESOLUTION OF THE SOUTH DAKOTA PEDIATRIC SOCIETY

WHEREAS:
In the past the South Dakota Crippled Children's Program has fulfilled a need, and

WHEREAS:
Said program has served many South Dakota children since its inception but has undergone many changes since that time, and

WHEREAS:
There is now a growing dissatisfaction of the pediatricians and other physicians in the State of South Dakota with the South Dakota Crippled Children's Program, and

WHEREAS:
There are grave doubts as to the effectiveness and economy of said program, and

WHEREAS:
Said program is administered by the State Health Officer in conjunction with the Public Health Advisory Committee consisting of a majority of lay people including even a chiropractor, but no advisory group of interested and experienced physicians is connected with the said program, and

WHEREAS:
The policies of the said program are ill-defined, and

WHEREAS:
Said program is based largely on mass screening clinics with self-referral, without proper medical authority, responsibility, and follow-up and treatment program.

BE IT RESOLVED:
That the South Dakota Pediatric Society ask the Council of the South Dakota State Medical Association to conduct an investigation and cooperative study of the South Dakota Crippled Children's Program in conjunction with the Commission on Medical Services, the South Dakota Orthopedic Society and other interested specialty societies, and

BE IT FURTHER RESOLVED:
That any recommendations from such cooperative study after approval by the majority of those organizations be forwarded to the State Health Officer and the Public Health Advisory Committee for incorporation into the Crippled Children's Program of the State of South Dakota.

The motion was seconded by Dr. Johnson and carried. Dr. Johnson moved that the South Dakota State Medical Association approve a feasibility

study for a four year medical school and that it be named as the sponsoring organization. The motion was seconded by Dr. Elston and carried. Dr. Reding moved that the Council accept the report of the Commission on Medical Service. The motion was seconded by Dr. Odland and carried.

OLD BUSINESS

A brief discussion was held regarding a survey made by the executive office on the full pay contract for the Association group Blue Shield — Blue Cross participants. Dr. Cosand moved that the Association's Blue Shield group plan continue as Plan III. The motion was seconded by Dr. Muggly and carried.

REPORT OF SURVEY ON FULL PAY CONTRACT ASSOCIATION GROUP BLUE SHIELD — BLUE CROSS

151		questionnaires sent
65	(43%)	questionnaires returned
38	(58%)	against
27	(42%)	for
86	(57%)	questionnaires not returned

NEW BUSINESS

A discussion was held regarding a proposed survey of doctors' charges. Dr. Brogdon moved that the Council authorize the executive office to make a survey of physicians' charges in South Dakota for years 1960, 1965 and 1967 with appropriate information on overhead office costs in those years and that such survey when tabulated be submitted to the Executive Committee for review and that upon its approval this information be released to approved parties who have requested this information. The motion was seconded by Dr. Odland and carried.

Dr. Tracy appeared before the Council and discussed the Medical School Endowment Association. He urged the Councilors to discuss the Endowment Association at their district meetings and thanked them for their continued financial and moral support.

Mr. Erickson discussed SoDaPac's request for a $500 donation from the Medical Association for the year 1968-1969. Dr. Cosand moved that the Association donate $500 to SoDaPac for the coming year. The motion was seconded by Dr. Stransky and carried. Vote: 13 for; 1 against.

A discussion was held regarding the Endowment Association's request for a list of Association members who have loaned money to the Building Fund, so that the Endowment Association might suggest to these note holders that they donate their loan to the Endowment Association. Dr. Elston moved that this list not be released by the Medical Association, but that the Endowment Association could send a letter to all doctors in the state informing them that if they hold a note from the building fund, they might donate it to the Endowment Association. The motion was seconded by Dr. Tieszen and carried.

Nominations were in order for the Distinguished Service Award which is presented at the banquet during the annual meeting. A vote was taken and the winner announced.

Dr. Elston gave a brief report on the AMA meeting which he attended on Health Care for the Poor. No action was taken.

Mr. Erickson discussed briefly some problems with the Medicare Program for the information of the Councilors. No action was taken.

A discussion was held regarding a letter received by Dr. Stransky from James Steele, M.D. concerning the appointment of three directors for the South Dakota Health Research Institute. It was determined that the Council would make three appointments for one, two and three year terms at the Council meeting in May.

It was decided to hold the second Council meeting during the annual meeting on Tuesday, May 21, at 12:30 p.m. rather than after the banquet as has been done in past years.

Mr. Erickson suggested to the Councilors that each district plan at least three meetings a year and that these meetings be planned in advance for maximum attendance.

Inasmuch as T. J. Wrage, M.D. has resigned from the Board of Directors of the Medical School Endowment Association nominations were in order for a replacement. Dr. Reding moved that Edward H. Peters, M.D. be named to the Board of Directors of the Endowment Association. The motion was seconded by Dr. Tieszen and carried.

Mr. Erickson read a telegram from the California Medical Association requesting that the South Dakota State Medical Association oppose the appointment of Wilbur Cohen as Director of the Department of Health, Education and Welfare by advising the South Dakota Senators of the Association's position. Dr. Brogdon moved that the South Dakota State Medical Association send letters to Senator Mundt and Senator McGovern informing them of the Association's opposition to the appointment of Wilbur Cohen. The motion was seconded by Dr. Elston and carried.

A brief discussion was held concerning appointments to the Hearing Aid Dealers Board. No action was taken.

Dr. Lewis moved that the meeting be adjourned. The motion was seconded by Dr. Tieszen and carried.

The Division of Maternal and Child Health of the University of California School of Public Health at Berkeley announces the following postgraduate programs for pediatricians, obstetricians, and other physicians interested in receiving training in the field of Maternal and Child Health. These programs all lead to the degree of Master of Public Health. Tax-exempt fellowship support is available.

Maternal and Child Health. A 9-month program in planning, organizing, and operating comprehensive health services for mothers and children.

Family Planning. A 9-month academic program providing intensive work in family planning as part of the general graduate preparation of maternal and child health specialists.

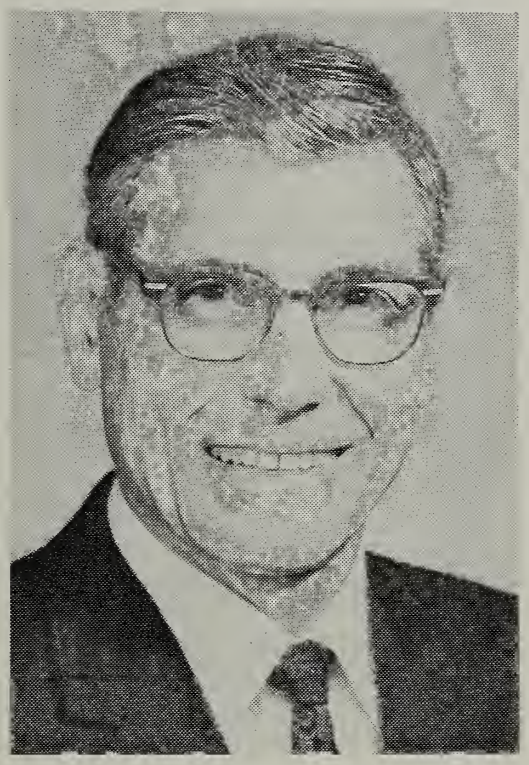
School Health. A 9-month academic program providing intensive work in school health as part of the general graduate preparation of maternal and child health specialists.

The Multiple Handicapped and Mentally Retarded Child. A 21-month academic and clinical program in planning, organizing, and operating community services for children with multiple handicaps, including mental retardation. This program is primarily for Board-certified or Board-eligible pediatricians, or for physicians on the staff of institutions for the mentally retarded or handicapped children.

Career Development Programs. Three-year academic and residency programs consisting of one year of academic training leading to the degree of Master of Public Health combined with residency training in Pediatrics or Obstetrics-Gynecology. The training emphasizes planning, organization and operation of comprehensive health programs.

Applications are now being accepted for the group entering in July or September 1968. For information write to Helen M. Wallace, M.D., School of Public Health, University of California, Berkeley, California 94720.

PRESIDENT'S PAGE



Fellow Physicians:

It is a great honor to serve as your Association president for the coming year and I appreciate the confidence you have shown by electing me to this office. A good measure of responsibility goes with the office and there will be considerable demand upon private time, however if the work of the organization is to continue, then time and effort must be given.

There are many members who give generously of time and talent. The members of the Council, the various Commissions and Special Committees are to be especially commended for their stalwart work. To face and try to solve the problems which come like an avalanche today is a tiresome and seemingly endless job. The wide array of new programs in the health field and the constant probing efforts and extension of federal controls furnish a new challenge almost daily it seems. The past few years have put the Medical Association in the position of a single catcher trying to work with three wild pitchers, all throwing fast balls, curves and sliders at the same time. A not so enviable position but one in which we unfortunately find ourselves. Medicine must face these challenges for who else will, or can face them for us?

I would urge each member to accept his fair share of the load by becoming actively and personally involved in the affairs of his District Society and the State Association. We are a democratic organization and our success depends upon the active participation of all members — the help of every member is vital in these turbulent times!

John T. Elston, M.D.
President

LETTERS TO THE EDITOR

1917 Elmwood Dr.
Brookings, S. Dak 57006
May 6, 1968

Mr. Richard Erickson, Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota
Dear Mr. Erickson:

I was notified by Dr. Rinker, USD Medical School that I am the recipient of a South Dakota State Medical Association award of $450. I would like to thank you, Mr. Erickson, and all those in the South Dakota State Medical Association who have chosen me as recipient and made this award possible.

Now as my entrance into medical school is drawing near, I am beginning to realize the great expense that will be involved. This scholarship is thus certainly appreciated. I hope to show this appreciation by doing my very best at the University of South Dakota Medical School this fall and becoming as fine a doctor as I possibly can.

Sincerely,
Cheryl J. Kohl

April 26, 1968

Editor
South Dakota Journal of Medicine and Pharmacy
711 North Lake Avenue
Sioux Falls, South Dakota 57104
Dear Editor:

During the past winter, large numbers of physicians, dentists, teachers, lawyers, and other professional persons received a reprint of an article on cigarette smoking which appeared in the January, 1968, issue of TRUE Magazine. Among those receiving this reprint, undoubtedly, were readers of your journal.

Very serious questions have been raised as to the accuracy, impartiality, and integrity of this article and its method of distribution.

On March 21, the WALL STREET JOURNAL published an article by Ronald Kessler, revealing that the reprints were sent out not by TRUE, which was the impression given, but by Tiderock Corp., a public relations firm employed by the Tobacco Institute.

I have entered the WALL STREET JOURNAL's article into the Congressional Record, along with comments by the Public Health Service and the American Cancer Society (March 27, 1968, p. S3415 et seq). The National Interagency Council on Smoking and Health has had this reprinted and informs me that copies will be furnished free upon request to the Council, at Box 3654, Central Station, Arlington, Virginia 22203.

Sincerely yours,
Warren G. Magnuson
Chairman, U. S. Senate,
Committee on Commerce

The US Public Health Service makes it mandatory that, when vaccinating a person for foreign travel, the immunization form filled out must also contain the name of the company and the lot number of the vaccine used. It is disconcerting to have to send individuals back to their physicians for a second visit to have this information recorded. It would be well if all physicians made a special effort to include this information at the time the vaccination is done.

The World Health Organization also requests uniformity throughout the world. In dating the vaccinations they have suggested that it be done in a military fashion, that is day, month, and year. While this is not mandatory, it would be in compliance with their request.

HEALTH SPENDING TOTALED $31.3 BILLION IN 1966

Spending for health care in the United States soared from $19.1 billion in 1960 to $31.1 billion in 1966, according to figures recently released by the Department of Commerce. The $31.1 billion represents 6.7 percent of the total personal consumption expenditures of $465.9 billion in 1966. Health care expenditures in 1966 were broken down in this way: physicians, $8.3 billion (26.5%); hospitals, $9.6 billion (30.9%); drugs, $5.1 billion (16.2%); appliances, $1.6 billion (5%); dentists, $3.0 billion (9.7%); other professional services, $1.5 billion (4.9%); and health insurance, $2.1 billion (6.8%).

BLUE SHIELD AND SOCIAL CHANGE

"Health insurance must respond to social change as well as to changes in clinical practice," a Blue Shield official told the Conference on Trauma sponsored by George Washington University School of Medicine April 30 in Warrenton, Va. The average American, living in a budgeted economy, has little extra money to avert the problem of unanticipated medical expense, Ned F. Parish, executive vice president, National Association of Blue Shield Plans, said. Thus, the patient relies upon both the physician and the health carrier for protection against such catastrophe, he said.

This is your

MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

It is better to have worried than never to have had anything to worry about.

Dr. John S. Tschetter was honored by the Huron District Medical Society for 50 years of service to the medical profession.

* * *

Hamlin - Deuel Retarded Childrens Chapter heard **E. H. Heinrichs, M.D.,** Watertown, address their group.

* * *

R. E. Van Demark, M.D., Sioux Falls, **John B. Gregg, M.D.,** Sioux Falls, and **E. H. Heinrichs, M.D.,** Watertown, were on hand to assist in the Crippled Children's Clinic held for the Brookings-Madison area.

* * *

John T. Elston, M.D., Rapid City, was guest speaker at a meeting of the Black Hills Society of Medical Technologists.

* * *

Dr. G. F. Tuohy, Sioux Falls, presented a workshop on Inhalation Therapy to the Hospital Inservice Class.

The 11th District L.P.N.'s heard **Dr. Gerald Tracy** speak on Tuberculosis.

* * *

A. W. Spiry, M.D., Mobridge, has announced he will seek the Republican nomination for state senator from the 21st District.

* * *

The State Department of Public Welfare has appointed **Paul A. Koren, M.D.,** Rapid City, to the position of director of medical services.

YOUR CONTRIBUTION TO THE SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT FUND IS NEEDED

Stanley W. Allen, M.D., Watertown, **L. G. Leraan, M.D.,** Sioux Falls, **L. W. Keller, M.D.,** Webster, **G. Angelos, M.D.,** Hot Springs, **I. I. Kaufman, M.D.,** Freeman and **Dennis L. Epp, M.D.,** Freeman, have been re-elected to active membership in the American Academy of General Practice.

* * *

Richard D. Schultz, M.D., Sioux Falls, has announced he will seek the office of Minnehaha County Coroner on the Republican ticket.

* * *

Robert R. Giebink, M.D., Sioux Falls, announced he is seeking the Republican nomination for the State House of Representatives.

* * *

Edith Burns, M.D., Sioux Falls, was the guest speaker at the Dell Rapids Women's Club.

* * *

James Larson, M.D., Watertown, and **E. H. Heinrichs, M.D.,** Watertown, participated in graduation ceremonies for a class of inhalation therapists at Memorial Hospital in Watertown.

G. E. Tracy, M.D., Watertown, and **Robert Hayes, M.D.,** Vermillion, were guest speakers at the South Dakota Board of Nursing's Workshop held in Sioux Falls.

* * *

Roy C. Knowles, M.D., Sioux Falls, was the featured speaker at the Annual Pastoral Counseling Institute held at the University of South Dakota.

* * *

The Mid-Dakota Association for Retarded Children and Cerebral Palsy heard **Dr. Richard D. Hockett,** Mitchell, address their group.

* * *

H. L. Ahrlin, M.D., J. D. Bailey, M.D., and **Bruce Allen, M.D.,** all of Rapid City, were present to assist in a Crippled Children's Clinic held in Deadwood.

G. Robert Bartron, M.D., addressed the S. D. Association of Radiologic Technologists at their annual meeting in Watertown.

* * *

Drs. Lushbough, Shaskey, and **Patt** presented a series of Prenatal classes for Brookings residents.

* * *

Dr. Robert Hayes, Vermillion, and **Dr. James Jackson,** Yankton, were speakers at a meeting of the S. D. Physical Therapy Association.

* * *

At the meeting of the South Dakota Chapter of the American College of Surgeons at Huron, S. Dak. on April 6th, **Dr. C. B. Gwinn,** Rapid City was elected President, **Dr. E. W. Gerrish,** Mobridge, Vice President, and **Dr. R. E. Van Demark,** Sioux Falls, Secretary-Treasurer.

Saint Michael's Hospital Medical Staff has elected **Robert Fahy, M.D.,** President, **Sterling Berg, M.D.,** Vice-President, and **Glenn Kleinsasser, M.D.,** Secretary-Treasurer.

* * *

Edmund Murphy, former U.S.D. Medical Student and Terrence Kolbeck of Vermillion have been appointed as interns at McKennan hospital in Sioux Falls.

* * *

Dr. Paul Hohm, Huron, was elected Chairman of the District X Blue Shield Plans during the annual meeting of the Plans in San Francisco. District X includes the Blue Shield Plans in North Dakota, South Dakota, Minnesota, Wisconsin, Iowa and Nebraska. The appointment will continue for one year.

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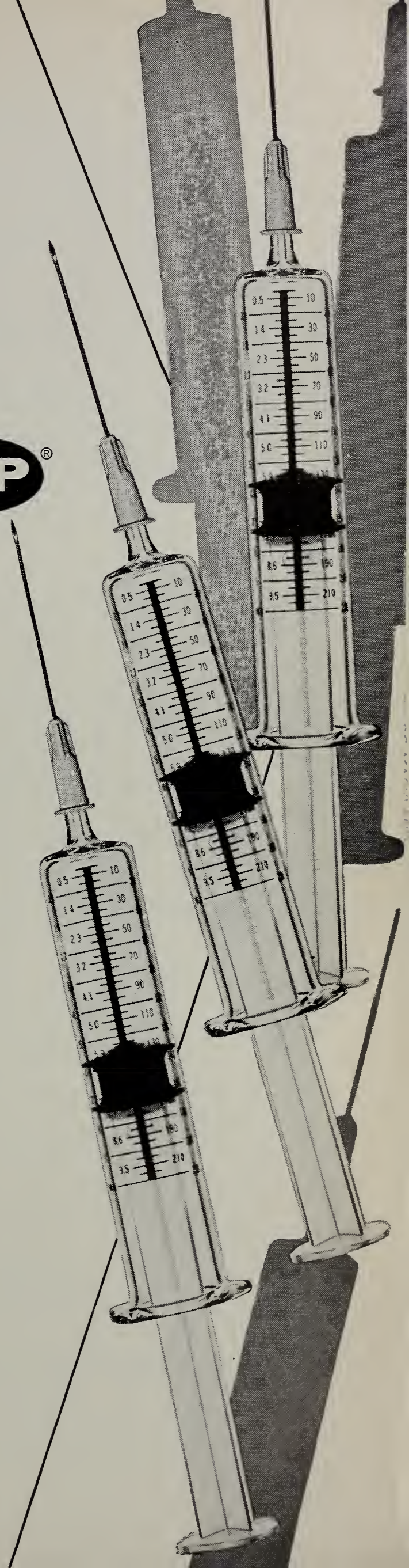

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**JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
AND THE SIOUX VALLEY MEDICAL ASSOCIATION**

Volume XXI **July, 1968** **Number 7**

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Scientific PAPER

UNCLASSIFIED MYCOBACTERIA INFECTIONS – ESSENTIAL POINTS IN REVIEW OF RECENT LITERATURE WITH THE REPORT OF A COMPLICATED CASE

Emil O. Muhs, M.D.*
Veterans Hospital Box 3012
Livermore, California
94550

The information on Unclassified Mycobacteria infections has increased in recent years. It is important, therefore, that the physician distinguish these infections from Pulmonary Tuberculosis so that he can be able to cope with the complications that arise both in the diagnosis and the disease as well as its treatment. This report presents the description of the disease by means of reviewing the essential points of recent literature and the presentation of a complicated case of the disease.

"Unclassified Mycobacteria" is the term adopted by the Committee on Diagnostic Standards of the American Thoracic Society for a large group of Mycobacteria that are biologically distinct from Mycobacteria Tuberculosis, Hansen's Bacillus as well as the various species of Nocardia. These organisms have also been called "anonymous," "atypical," and "saprophytic."[1] They are apparently not mutants or strains of M. Tuberculosis, but completely distinct organisms.[2] Since these Mycobacteria are capable of producing disease in man, they deserve a toxonomic classification and separate species identification; the term "unclassified," or "anonymous" is preferred. Their cultural characteristics such as, pigment production and rate of growth allow them to be divided into four groups, or types as utilized by Runyon (see below). These groups, or types are not homogenous, but each type has several species or strains.

RUNYON TYPE I—Photochromogens, which produce a yellow pigment, but only on exposure to light. Also known as Kansasii bacillus, or Yellow bacillus.

RUNYON TYPE II—Scotochromogens, which produce a reddish yellow pigment in either light or darkness. Also known as M. Scrofulaceum, or Tap water bacillus.

RUNYON TYPE III — Non-photochromogens (or chromogenic), which usually forms a buff white growth in either light or darkness. Also known as the Battey Bacillus, Swine-avian bacillus, or Radish bacillus.

RUNYON TYPE IV—Rapid grower, grows in about 4 to 10 days. The variety of strains of this group is so extensive that general remarks with regard to size, shape, and pigmentation of colonies are impossible. They may be of almost every colony characteristic and color. These strains are M. Phlei, M. Fortuitium, M. Marinum (also called balnei), M. Smegmatis, etc.[3]

EPIDEMIOLOGY

Type I and III are the most pathogenic agents in man, and almost always affect the lung, hence, these two types have had the most attention. Type II infections (or colonizations) have been reported chiefly in individuals with previous significant pulmonary damage, especially in patients with advanced but successfully

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treated human pulmonary tuberculosis.[3] These organisms have been recovered from the nose, throat and bronchial tree of normal persons.[4] The appearance of these organisms in secretions from patients with proved pulmonary tuberculosis may be a favorable prognostic sign, because shortly after their appearance, the sputum of many patients convert to negative for M. Tuberculosis. Since Scotochromogens are found in the respiratory tract of some normal persons, these organisms may be opportunists rapidly multiplying to fill space vacated by the tubercle bacilli and, in so doing, spill over into the sputum.

The rapid growers, or Type IV are found extensively in nature and frequently as contaminants of specimens submitted for examination. Whereas the majority of species in this group are saprophytes, there have been patients with pulmonary lesions from whom the only organisms isolated have been rapid growing M. Fortuitum, or M. Fortuitum-like bacilli. Type IV lung disease, however, has been reported at the Mayo Clinic in three patients in 1956-62, in South Carolina in four patients and Houston, Texas in two patients in 1965.[5] Significant epidemics of swimming pool granuloma of the skin (Type IV, M. Marinum) have occurred in Colorado, Hawaii, Scandinavia[3] and the Pacific Northwest.[6]

In certain geographical areas and in stable population areas, Unclassified Mycobacteria can be isolated from about 14% of apparently healthy people. Since there are so few cases reported where more than one case per family exists, the mechanism of spread and infection must differ from that of the M. Tuberculosis.

In general, it appears that the Runyon Type I infection is largely confined to the middle southern states, Missouri, Kansas and Texas, whereas, the Runyon Type III infection is largely confined to the southeastern states. Curry[4] states, "Since the original reports, pulmonary disease and lymphadenitis due to Photochromogens and Non-photochromogens have been found in every section of the nation, wherever physician interest is high and experienced microbiologists with facilities are available."

The Unclassified Mycobacteria evidently have a predilection for white males and for people in fairly high economic groups. Lichtenstein, et al.[7] report that in 1961, 45% of admissions had Runyon Type I infections, of which 69% were adult white males, 13% were Negro males, 26% white females and 7% Negro females. The bulk of these cases were from the fairly high economic status areas of Chicago, Illinois. In the study at Houston, Texas[5] during 1965, 178 cases were classified as follows: Runyon Type I — Nonagricultural workers 27 cases, agricultural workers, no cases; Type II — Nonagricultural workers 14, agricultural workers 5; Type III — Nonagricultural workers 64, agricultural workers 9; Type IV — Nonagricultural workers 51, agricultural workers 8.

SYMPTOMS

The symptoms of Unclassified Mycobacterium infections of the lungs resemble those of M. Tuberculosis, but in most cases milder in form. A small percentage have a sudden onset similar to that of an acute lung abscess, or pneumonia.

DIAGNOSIS

In the diagnosis of these cases the physical examination, x-ray and usual laboratory procedures are of little value. Skin tests may show little or no reaction with purified protein derivative (PPD) or Old Tuberculin. Skin testing materials, or antigens prepared from the various Runyon types are effective as a diagnostic aid. It has been shown that antigens prepared from one strain are heterologous for other groups, or other strains of the same group. These antigens are frequently found positive when Old Tuberculin, or PPD are negative. Sputum, or gastric wash cultures, subcultures and the items in the following table are the diagnostic factors; hence, the diagnosis lies largely in the hands of the bacteriologist.

Besides microscopic morphology, the following are used in differentiation of Unclassified Mycobacterium from M. Tuberculosis:

Biological Test	Myco. Tuberculosis	Unclassified
Niacin	Positive	Negative
Neutral Red	Positive	Negative
Animal Pathogenicity	Progressive in guinea pigs	Local in guinea pigs, more extensive in mice
Isoniazid	Susceptible	Insusceptible
Streptomycin	Susceptible	Partial Susceptibility
Rate of growth	Usually 6-8 weeks	Usually 4 days to 2-3 weeks
Cording	Definite	Slight to absent
Catalase activity	Moderate (absent in certain INH-resistant organisms)	Vigorous

In the most recent literature, studies are presented for the classification of Unclassified Mycobacteria with the use of thin-layer chromotography of their lipids[8] and using thiosemicarbazone and para-nitrobenzoic acid.[9] Hobby et al[10] state in their studies conducted by the United States Veterans Administration-Armed Forces hospitals that the Unclassified Mycobacterial strains isolated were characterized on the basis of their morphology, biochemical reactions, phage-susceptibility patterns and by serotyping. No single test is adequate for identification of a strain of mycobacteria; the different laboratories relied upon various combinations of test procedures for identification of the strains.

TREATMENT

Albertson[2] states, "Unclassified bacteria are usually resistant to the usual chemotherapy drugs such as streptomycin (SM), isoniazid (INH), para-aminosalicylic acid (PAS), pyrazinamide, cycloserine and kanamycin. However, some are sensitive to cycloserine and most of them are sensitive to viomycin and ethionamide." D'Esopo[11] collected a group of 64 Runyon Type I cases treated with the primary drugs (SM, INH, and PAS); some received high doses of INH and some received the secondary antituberculosis drugs (ethionamide, parazinamide, or cycloserine). About one-fourth of these patients showed marked improvement, whereas, the remainder showed slight, or no change in their local or systemic systems. Sixty-five percent of these patients had negative sputa smears and cultures when last seen. Forty-four patients showed cavitation by x-ray at the start of treatment and of these, 33 still had open cavity when last seen; of the remaining 11 cases, in 8 patients the cavities eventually closed and 3 were resected.

Chapman[3] feels that the three first-line drugs used in the treatment of tuberculosis, SM, INH, and PAS, produce some effect, though not as complete as that obtained in infection with M. Tuberculosis. One or more of the major drugs may be replaced by ethionamide, cycloserine, or parazinamide.

PATHOLOGICAL FINDINGS (PULMONARY)

Pathological findings are largely that of M. Tuberculosis infections. Takimura and Thompson[12] report that of 37 specimens resected and studied pathologically in order to differentiate Runyon Type I from Tuberculosis infections, they find the only difference was the character of the cavity wall which was usually quite thin and sharply demarcated in the Type I cases. Twenty-nine of these specimens showed evidence of cavitation and one showed evidence of "open healing." They further state that microscopically, the most significant change seen in comparison with tuberculosis infection was the presence of endobronchitis. Of the 37 specimens examined, 27% could be classified specifically as tuberculosis, whereas non-specific endobronchitis was found in another 27%. Four of these specimens showed lymph-laden phagocytes or foam cells, and the presence of plasma cells was noted in 3 cases.

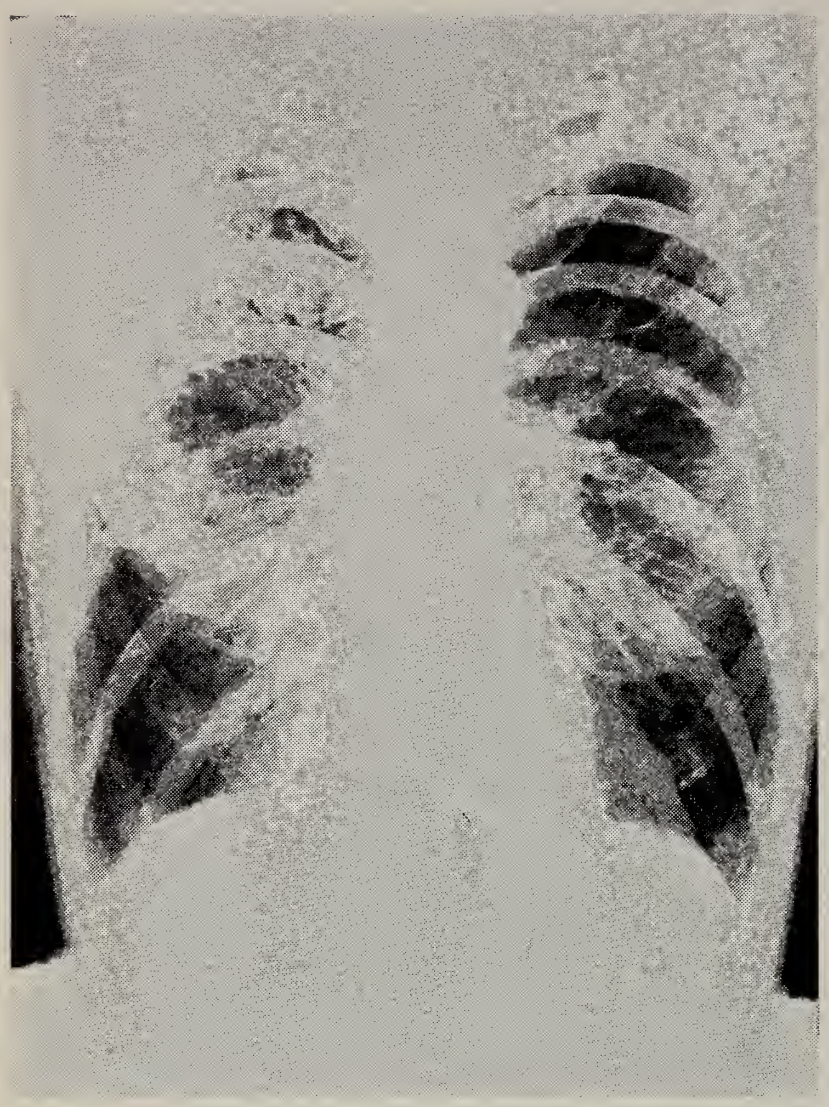
CASE REPORT (RUNYON TYPE III)

This patient (G.S.), a 45 year old electronic technician who was born and lived in southwest Missouri until he was 18 years old, then lived in central Illinois for more than 2 years. During World War II, he served in the Army Air Corps for 3 years and was located in Central Illinois, Hamilton Field, California, Hawaii, Fiji Islands and at Travis Air Force Base, California. After discharge he lived at Fairfield, California for 3 years, one year in Tokyo, Japan, 9 months at Reno, Nevada, 3½ years in Chicago, Illinois, 4 years in southwestern Missouri (1953-57), 2 years in Dover, Delaware, and from March 1959 to the time of his admission to this hospital, he lived in San Jose, California.

He gave a history of having had a right spontaneous pneumothorax on two different occasions while serving in the Fiji Islands; his lungs re-expanded to normal both times and he was returned to duty. During early 1964 he had a routine chest x-ray which was reported as showing emphysematous blebs in both apices. During this time he was symptomless. During the early part of June 1964 he rather suddenly became tired and was almost incapable of finishing a day's work. He finally went to his private physician who took a chest x-ray which showed an infiltrate in the right upper lobe (Fig. 1). By this time he had developed chills, fever, aching of his legs, anorexia and some loss of weight. His sputum was found to be positive for acid-fast bacilli on smear.

He was admitted to his local County Hospital Tuberculosis Section with a tentative diagnosis of Pulmonary Tuberculosis. While at that hospital his sputum tests were consistently positive for acid-fast bacilli on smear, but were always negative on culture. His sputa were also negative for fungi; no suggestion of Nocardia was noted at any time. His skin tests were positive for tuberculosis and histoplasmosis, but negative for coccidioidomycosis. On July 21,

Fig. 1.



Chest x-ray of June 16, 1964 which shows the infiltrate in the right upper lobe.

1964 he was started on streptomycin (SM), isoniazid (INH) and para-aminosalicylic acid (PAS) and continued. Because of persistent elevation of his temperature to 102 and 103 degrees, sulfa drugs and penicillin were added to the drug regimen. In spite of all these drugs the infiltrate as seen on x-ray remained, but it became more firm and a definite cavity became evident. His temperature fluctuated daily for the first months of hospitalization, but gradually reduced to 99, or 100 degrees in the afternoons. During this time a sputum was sent to the State Department of Health Laboratory.

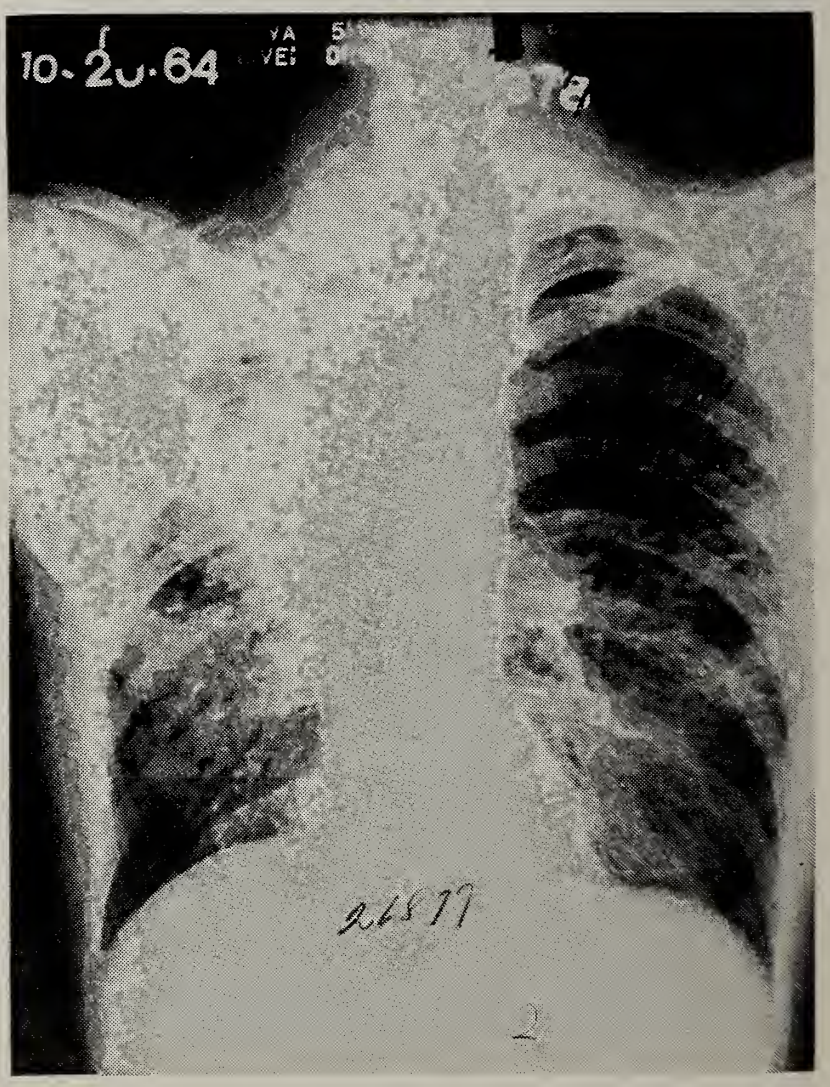
He was transferred to our hospital on Oct. 20, 1964. Our laboratory reports show a normal hemogram except for a 12,000 white cell count with a normal differential. Urinalysis was normal. Skin tests were positive on PPD ♯2 and histoplasmosis, but negative for coccidioidomycosis as was reported on his previous hospitalization. Serology for coccidioidomycosis and histoplasmosis was negative. All sputa smears at this hospital were negative for acid-fast bacilli, but 3 cultures were reported as positive for M. Runyon Type III; these showed some resistance to INH but sensitive to SM and PAS.

On Dec. 1, 1964, the State Department of Health Laboratory reported that the sputum, which had been sent in by the previous hospital was found to be positive on culture for M. Runyon Type III bacilli. Following this all sputa were reported negative on smear and culture except one post-bronchoscopic wash smear which had a few acid-fast bacilli, but was negative on culture.

His admission chest x-ray (Fig. 2 & 3) showed extensive infiltrate involving the right upper lobe with some degree of atalectasis and numerous cavities, the largest measuring approximately 4.8 cm. in diameter. Infiltration was also noted in the right middle lobe and moderate degree in the superior segment of the right lobe. There was also evidence of bronchogenic spread in the left mid-lung field. Displacement of the trachea and upper mediastinum toward the right was present.

The same medications SM, INH and PAS were continued at this hospital. After admission his temperature was elevated a few times, then remained normal. He was bronchoscoped on Nov. 3, 1964 which showed a normal tracheobronchial tree. Bronchial washings were done which were negative on smear and culture for

Fig. 2.



Film of Oct. 20, 1964 with the dense infiltrate and cavitation in the right upper lobe with spread of infiltrate into the right lower and left midlung fields.

Fig. 3.

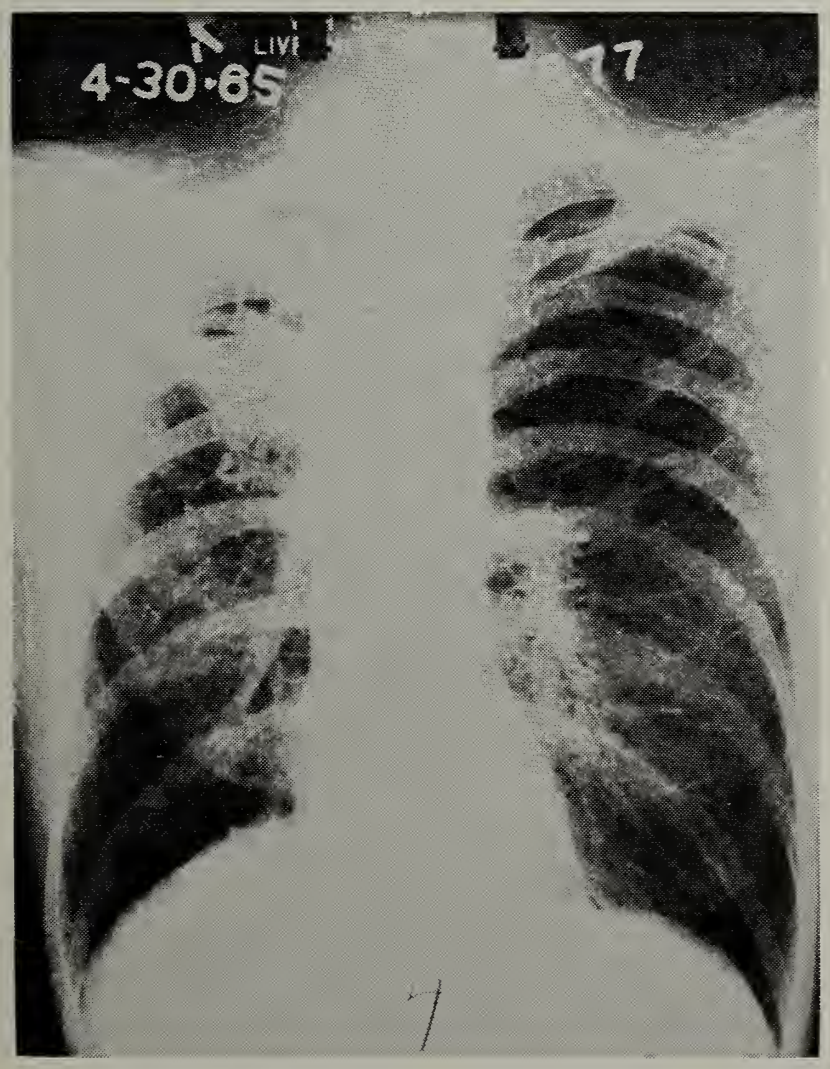
Right lateral view taken on the same date as Fig. 2 showing the infiltrate and cavity.

fungi and acid-fast bacilli as well as for cytology studies, except the one positive smear previously mentioned.

The patient showed continued improvement. By Apr. 8, 1965 in conference with the surgical department, it was felt that his x-rays (Fig. 4) had shown ample stabilization to permit surgery. Viomycin (VM) 2 grams two times a week was added to his medication and on May 3, 1965 a right upper lobectomy was done. This surgery was complicated by a marked degree of symphesis necessitating sharp and blunt dissection; the greater and lesser fissures were not developed which necessitated further sharp dissection. Under positive pressure, the right middle and lower lobes were found to adequately fill the right hemithorax.

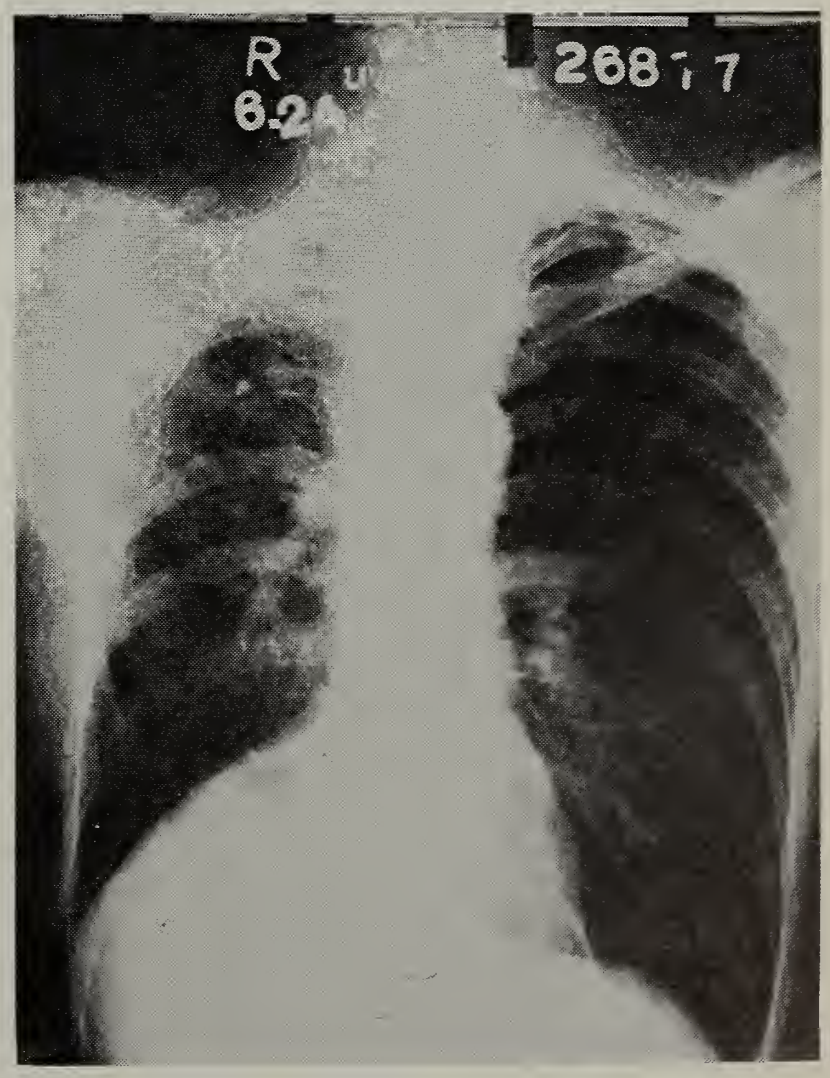
The patient had an uneventful post-surgical recovery and the SM was discontinued. Successive x-rays showed the remaining right lung to be well expanded with a small area of air remaining in the upper chest cavity. The patient was discharged on May 28, 1965 with instructions to continue on VM, INH and PAS. He was recalled for an examination on June 24, 1965 at which time his x-ray (Fig. 5) showed consider-

Fig. 4



Chest x-ray of Apr. 30, 1965, three days before surgery presenting bilateral clearing of infiltrate, but a destroyed right upper lobe with cavitation.

Fig. 5.



X-ray film of June 24, 1965, seven weeks after surgery; the right lower and right middle lobe has filled the right hemithorax.

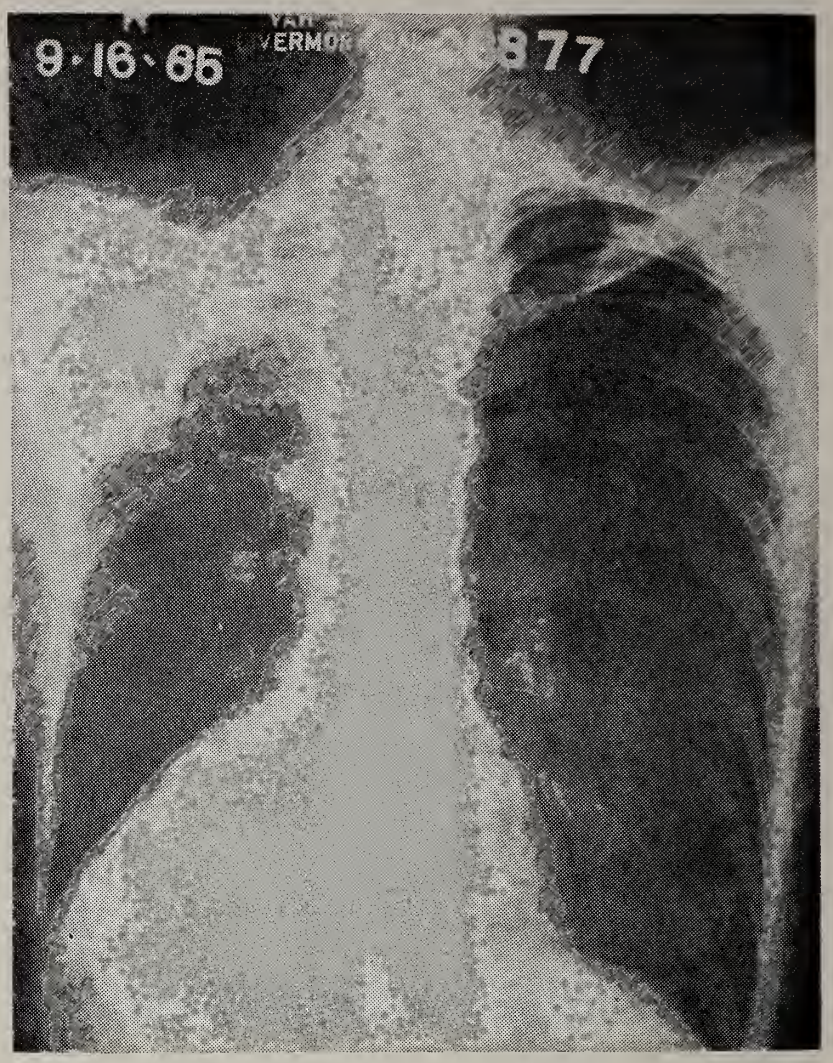
able clearing of the right chest from the operative procedure and the air space in the upper chest was very small. VM was discontinued at this time but he was advised to continue on INH and PAS.

The pathological report states that the extirpated right upper lobe was severely contracted and distorted measuring about 5 by 12 cm. It was non-crepitant and beefy throughout. Upon opening, the parenchyma was honeycombed by various sized and irregularly shaped communicating cavitations ranging in size up to 3-4 cm. in diameter. Some of the cavities contained a slight amount of grayish-white friable cheese-like material. Microscopically, there was considerable distortion of the broncho-aveolar architecture. There were extensive areas of exudative and proliferative reaction with atelectasis, particularly around the bronchial ramifications which were similarly extremely distorted with bronchiectatic as well as constrictive changes. Numerous cavitations were seen which contained caseous and fibrinopurulent exudate resting upon a caseous and markedly cellular fibrinoblastic granulation tissue reaction. The latter was heavily infiltrated with lymphocytes, plasma cells, epithelioid cells, multinucleated giant cells and varying number of polymorphonuclear leukocytes. The larger bronchioles exhibited extensive caseation necrosis of their walls, while smaller ones were constricted and frequently surrounded with foci of caseation necrosis also. Smears and cultures of the surgical specimen were positive for acid-fast bacilli, M. Runyon Type III.

The patient was asked to return to the hospital monthly for examinations. He did well until September 1965 when his chest x-ray (Fig. 6) showed an infiltrate in the right middle lobe and upper segment of the right lower lobe, which now occupied the right upper chest area. He was then readmitted to the hospital. It was found that his sputa were again positive for M. Type III and that they were resistant to INH and PAS, and partially resistant to SM, VM and ethionamide. During the remainder of his hospitalization his drug regime consisted of the anti-tuberculosis drugs that he could tolerate, or to which the bacteria showed least, or no resistance. At the end of hospitalization the bacteria were resistant to all these drugs.

The infiltrate in the right upper lung field showed no evidence of clearing. Tomography on Feb. 8, 1966 showed two cavities each about 1.5 by 2.5 cm. in size. With this information and

Fig. 6.



Chest x-ray of Sept. 16, 1965 revealing newly developed infiltrate of the right middle and lower lobe now occupying the right hemithorax.

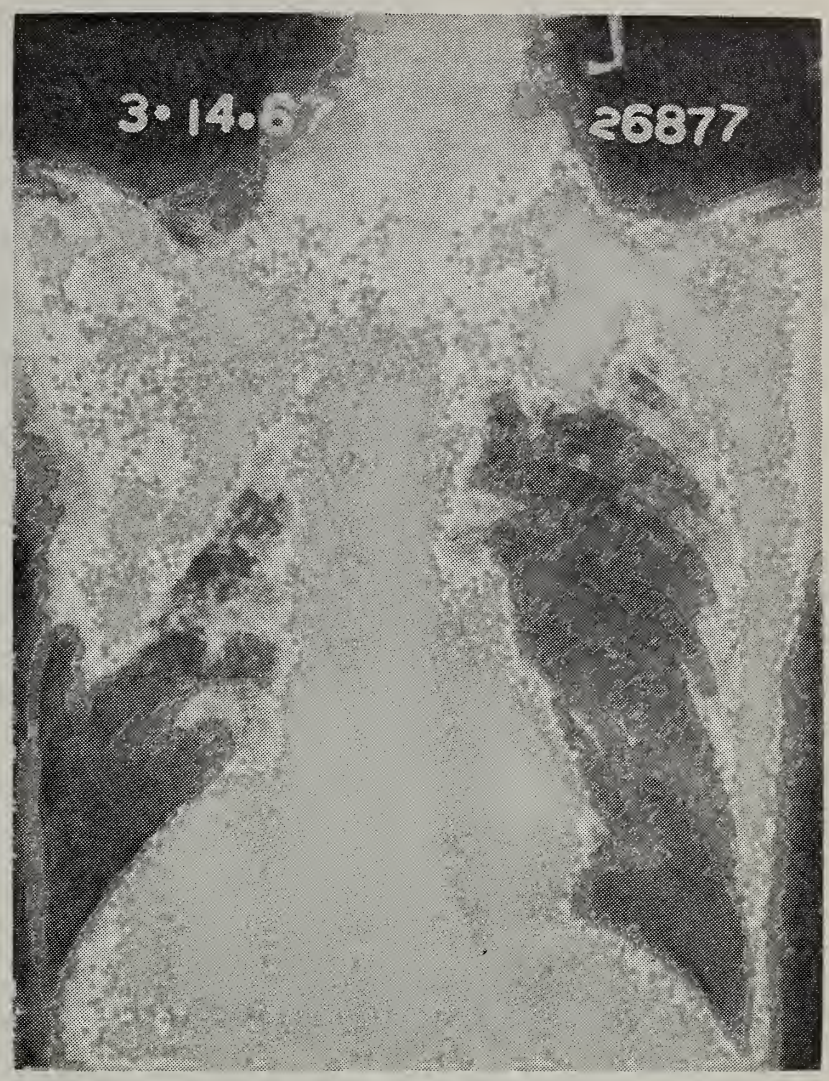
the persistent positive sputa, it was decided to do a thoracoplasty. The first stage was done on Apr. 5, 1966 and the second stage on Apr. 18, 1966 with a total of 6 ribs removed. He made an uneventful recovery from surgery, but developed difficulty with the tip of the right scapula hooking behind the seventh rib. On May 19, 1966 the lower 4 cm. of the right scapula were removed.

Following the above surgery his sputum became less frequently positive for the mycobacteria, but resistance to the drugs increased. Chest x-ray of May 3, 1966 showed some infiltrate in the left lung field; this continued to increase until Aug. 1966 (Fig. 7) when the patient was put on absolute bed rest. After 3 months no chest x-ray change was noted so bed rest was abandoned. By Jan. 1, 1967 some decrease in infiltrate was noted and some further decrease in infiltrate in the next two months but remained stable after that (Fig. 8). By this time his sputa continually showed a decreased number of bacteria, but failed to clear entirely; smears were frequently positive, but cultures were usually negative. During this

Fig. 7.

Film of Aug. 18, 1966 showing the recently developed infiltrate into the left lung field.

Fig. 8.



X-ray film of Mar. 14, 1967 manifesting the contracted infiltrates in both upper lung fields.

time, dyspnea had increased due to destruction of lung tissue and scar formation as well as increased emphysema.

It was now apparent that further hospitalization would not be of any benefit to the patient, consequently he was discharged on Apr. 30, 1967. He was advised to continue indefinitely (unless otherwise contraindicated) on INH mg. 900, cycloserine mg. 750, pyridoxine mg. 100 daily and on ethionamide mg. 750 daily, or as tolerated.

DISCUSSION

This case report verifies the statement previously made that cases of Unclassified Mycobacterium infections are found in other than the areas usually frequented. Although this patient was born and lived in Missouri, the area where Runyon Type I infections are prevalent, this patient presents a case of Runyon Type III infection. This case also verifies a previous statement that these cases respond poorly to the usual armamentarium of drugs, namely, streptomycin, isoniazid and para-aminosalicylic acid, in fact, this case responded poorly to all known drugs as well as to surgery.

SUMMARY

The essential points of recent literature on Unclassified Mycobacterial Infections were reviewed with the report of one case of Unclassified Mycobacterium Runyon Type III, or Battey Bacillus infection. Unclassified Mycobacterial infections are not necessarily restricted to one area as formerly considered, however, the majority of the Runyon Type III, or Battey Bacillus infections are in the southeastern portion of the United States, however, the majority of Runyon Type I, or Kansasii Bacillus infections are in the middle southern states.

These bacteria attack people of fairly high economic status, rather than those of the lower economic level as the Mycobacterium Tuberculosis frequently does. Symptomatology of these infections are, with some exceptions comparable to those of M. Tuberculosis infections, but less severe. The diagnosis of these cases can be made with assurance, only after the gastric wash cultures, sputum cultures, or chemical tests are available with their characteristic features. Up to that time there is no assurance that these cases are other than M. Tuberculosis Infections.

Treatment consists of the usual antituberculosis drugs, but more specifically streptomycin, viomycin and ethionamide. Whenever surgery can be utilized, it should be done to eradicate the diseased portion of the lung from the body. Pathological findings are largely the same as that of pulmonary tuberculosis infections.

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MORE DENTAL TREATMENT NEEDED

Increasing personal income, dental care programs for indigent groups, and the growth of dental prepayment are factors that will increase the demand for dental services in the future, according to a member of the American Dental Association's board of trustees. Harold Eberhardt, DDS, of Minneapolis, pointed out that the recent Report of the National Advisory Commission on Health Manpower has given "considerable and necessary attention to controlling excess utilization of hospitalization and physicians' services." But, he added, while these are obviously grave problems in the economical and efficient use of existing health resources, the problems in dental care are just the opposite and we should be encouraging increased and regular utilization of dental treatment.

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ALOPECIAS – DIAGNOSTIC AND PATHOGENETIC CONSIDERATIONS

by
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Introduction

Few problems concerning the skin and its appendages are of so much concern to patients and physicians as alopecia. Hair loss is of interest because, as far as we know, hair is essentially without function. It is of concern because hair is exceedingly important from a cosmetic and psychological standpoint. The fact that esthetic considerations prevail is clear in that people have traditionally sought the advice of hairdressers and barbers for problems of hair loss. Many people seem to consider the hair peculiarly unrelated to the rest of their anatomy and hence quite outside the realm of medicine. However, as people are becoming more medically sophisticated this pattern is changing, and medical advice is sought more freely. Physicians may be frustrated by the apparent complexity of alopecias and prefer to dismiss them as the inevitable price of evolution.

The purpose of this paper is to discuss those alopecias in which recent studies have shed some light on pathogenesis, but in which knowledge is still insufficient to make management clearcut and simple. Accordingly, alopecias due to dermatophytoses, burns and other nonspecific processes will not be discussed. Alopecias due to various congenital defects, and from certain drugs and poisons will be discussed briefly. Diffuse hair loss, hereditary-patterned baldness, alopecia areata, traumatic alopecias and physiologic alopecias will be discussed at length.

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Anatomy and Physiology

Since the science of diseases of the skin and its appendages is founded almost entirely on visual observations, it is especially important to preface considerations of alopecia with an understanding of the anatomy and physiology of the hair.

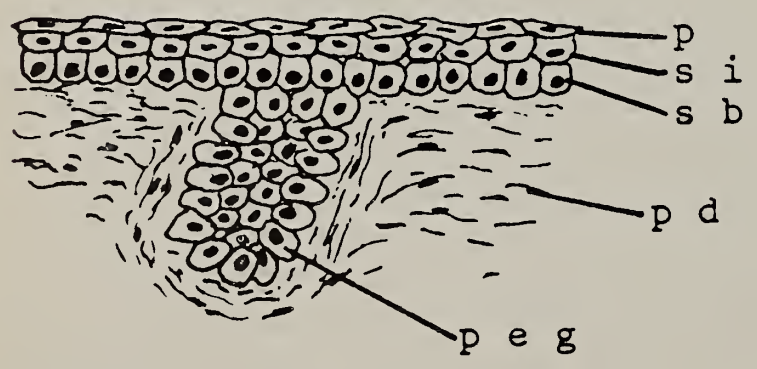
The surface of the human fetus, up to one month of age, is covered by a one-cell thick ectodermal layer, the fetal periderm. At this time also, mesenchymal cells are proliferating beneath to form the dermis, which is finally to become the main bulk of the skin. During the second fetal month a second, inner, layer, the stratum basale, is added to the periderm. During the third fetal month a third layer develops so that from the outside in, there are periderm, stratum intermedium, and stratum basale. From the stratum basale small buds of cells known

as primary epithelial germs proliferate down at intervals into the dermis. These buds are the anlagen of apocrine sweat glands, sebaceous glands, and hair follicles. The greatest population of these is on the head, where their development begins. Subsequent development proceeds caudally during the fourth and fifth fetal months. As the presumptive hair follicles enlarge and differentiate, their free advancing ends become clavate and each encloses a little ball of dermis, the dermal papilla. This tiny structure will later house the main blood supply to the hair-producing cells (matrix) of the follicle (see figures).

The presumptive follicle is now enlarged to a column of pluripotential epidermal cells. It progressively hollows out through the center to make way for the subsequent hair which will arise from a bulb of cells surrounding the dermal papilla at the base of the follicle. At this time it is apparent that the major portion of the follicular wall, the external root sheath, is simply an extension of the now completely formed surface epidermis. At the fundus of this sac-like structure is a matrix of cells that produce hair, much like the surface epidermis produces stratum corneum. The main difference is that the latter desquamates and the former does not. There has been also a concomitant differentiation of part of the external root sheath into the sebaceous gland, so that this gland becomes an appendage in the wall of the hair follicle. In addition, further follicular blood supply develops from surrounding dermal and subcutaneous vascular plexi.

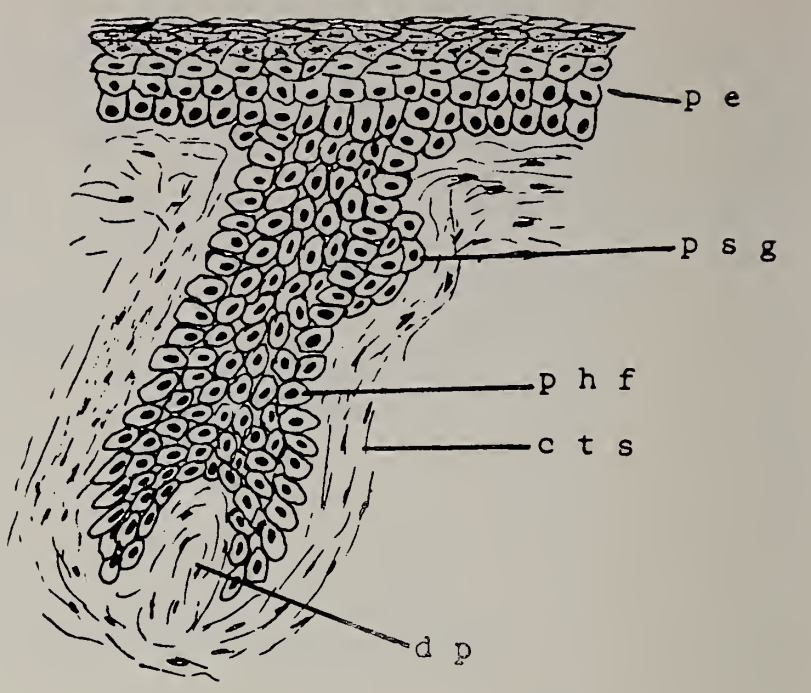
The hair matrix has a high mitotic activity, comparable to that of the bone marrow. On the average adult scalp, which bears about 100,000 hairs, there is a daily production of 100 feet of hair. Hair, like the stratum corneum of the epidermis, consists mainly of keratin, a fibrous protein, and certain fats.

Figure 1.



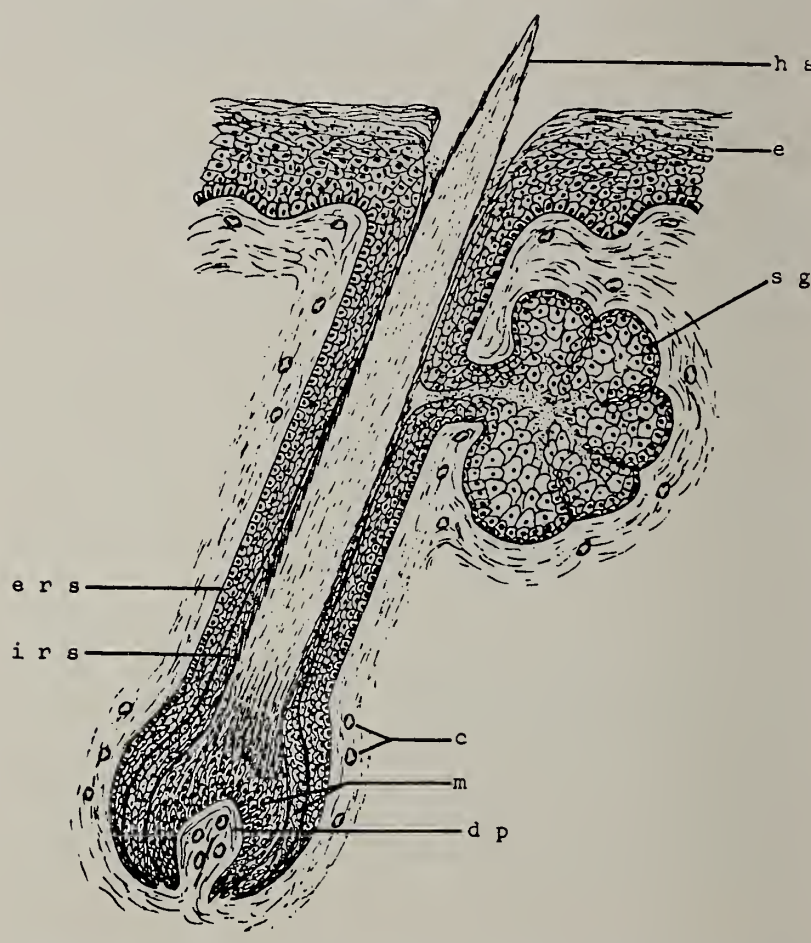
Primitive epidermis of a 12-week embryo, p-periderm, si-stratum intermedium, sb-stratum basale, pd-primitive dermis, peg-primary epithelial germ.

Figure 2.



Subsequent differentiation toward hair follicle and sebaceous gland; pre-primitive epidermis, psg-primitive sebaceous gland, phf-primitive hair follicle, cts-connective tissue sheath, dp-dermal papilla.

Figure 3.



Mature hair follicle in anagen phase, with sebaceous gland. hs — hair shaft, e-epidermis, sg-sebaceous gland; sebum is the product of disintegration of these cells. c-capillaries, m-matrix; these cells produce not only hair shaft, but also internal root sheath (irs), which degenerates and desquamates within the follicle. dp-dermal papilla, ers-external root sheath, a continuation of surface epidermis (e).

Fetal hair (lanugo hair) is present on the head by the fifth fetal month and subsequently appears over the remainder of the body. This hair,

for the most part, is shed shortly before birth. More on this phenomenon will be discussed later, as it relates to neonatal alopecia. The newborn infant has a second pelage of lanugo-like (vellus) hair, of variable amounts. As he ages, he gradually acquires adult type hairs. Morphologically adult hairs fall into six categories: (1) scalp, (2) eyebrow and eyelash, (3) beard, (4) body, (5) pubic, (6) axillary. Hormonally, adult hairs fall into three categories: Non-hormonal (eyebrows and eyelashes, part of body hair), hormone modified (scalp, axillary, lower pubic, part of body hair), hormone dependent (upper pubic, beard).

The growth of hair is characterized by cycles. This is true in most mammals. However, unlike the hair of other mammals, human hair grows in asynchronous cycles, i.e., it does not molt. Each individual hair's cycle is independent of all others, so that growth patterns are random. The growing phase (anagen), in which there is continuous matrix proliferation and hair production, usually lasts two - six years in scalp hair, and for shorter periods in other hair. The regressing phase (catagen) lasts only about two weeks in scalp hair, and for about the same period in other hair. During this time the matrix involutes, the hair stops growing and the lower 2/3 of the follicle degenerates. The blood vessels in the dermal papilla and around the follicle collapse but do not degenerate. The resting phase (telogen) lasts two - six months in scalp hair and in other hair. At this time the hair is loosely implanted in the follicle. A new anagen phase begins as the few remaining matrix cells begin proliferating anew to start a new hair. The previously collapsed vessels reopen and re-establish the blood supply. The old telogen hair ("club hair") is pushed out, and the follicle grows back to its original length for the new anagen phase.

These phases can be easily recognized by the gross appearance of individual scalp hairs. If a firmly implanted (anagen) hair is plucked, a sticky grayish-white membrane is seen around the lower 2-3 mm., or the hair root. This membrane is actually the major portion of the follicle and matrix. However, enough cells of these two structures have remained behind to allow full regeneration of a new hair. If a loosely implanted hair (telogen or club) is plucked, a tiny, dry, bulb is seen at the lower end, covered by a few degenerated follicular cells. These club hairs are ordinarily thin, tapered, and light in color when compared to anagen hairs. The catagen phase is so brief that hairs therefrom are seldom seen, but their appearance lies somewhere between that of anagen and telogen hairs.

Normally in the young adult, 85-95 per cent of scalp hairs are in the anagen phase, and five-15 per cent are in the catagen and telogen phases. With age, and in certain types of hair loss to be discussed later, these percentages change. The normal young adult ordinarily loses 20-100 club hairs daily, for an average loss of about 50 daily.

Neonatal Alopecia

A commonly observed phenomenon in infants is occipital hair loss followed by fronto-parietal hair loss. This sometimes causes parental anxiety and the mother may stop cleaning the baby's scalp for fear of making him bald. A satisfactory physiological explanation for this hair loss exists, and its temporary nature can be assured.

In the fifth fetal month the majority of the frontal and parietal hair suddenly goes into catagen and then telogen phase. This is, in a sense, molting, which is different from the random hair cycles of the postnatal individual, as pointed out previously. This gross change to catagen and telogen moves posteriorly in a wave, so that in the eighth fetal month it has occurred in the occipital hair. At this time a new anagen growth has appeared frontoparietally and has pushed the telogen hairs out into the amniotic fluid about three months after their change to telogen. At birth then, the new anagen growth is occurring frontally and parietally. Subsequently occipital hairs will be pushed out when the infant is in his second month of life, about three months after their change to telogen. The new anagen hairs are still very short and the infant looks bald in the occipital area. This telogen wave is often repeated, although less extensively, so that the infant again develops partial baldness progressing from the frontal to the occipital regions. The follicles then ordinarily re-establish their cycles in a random pattern, and normal postnatal anagen and telogen percentages are established over the scalp. By the age of eight - ten months these regional losses ordinarily no longer occur.[5] The only treatment necessary is reassurance that the condition is temporary.

Telogen Effluvium

Temporary hair loss following periods of physiological stress likewise is a well known phenomenon. Most physicians have seen patients who, two - four months after childbirth, major surgery, or serious systemic illness, have either sudden or gradual loss of large amounts

of hair. This is known as **telogen effluvium,** because it represents the sudden change of a large number of hair follicles from anagen to telogen. Older names for this phenomenon include symptomatic alopecia and defluvium capillorum. Kligman has written extensively on this subject,[19] and his studies indicate that over 20 per cent telogen hairs on the scalp is presumptively abnormal, and that over 25 per cent telogen hairs is diagnostic of telogen effluvium.

Post partum telogen effluvium usually begins two - four months after delivery, and lasts two - five months, although it may last a year or more. If a small tuft of hair is plucked, it will be seen that telogen hairs constitute somewhere between 20 per cent and 50 per cent. It should be emphasized that this is true only if the loose telogen hairs have not been removed in part by recent vigorous brushing or shampooing. Ordinarily they remain in place until pushed out by a new anagen hair. This accounts for the fact that the patient is more likely to complain about the amount of hair that fails out than about the amount remaining on the scalp. Furthermore, thinning of scalp hair is seldom obvious if less than 50 per cent is lost.

Studies during pregnancy have shown that in most women, starting in the second trimester, telogen percentage decreases, and anagen percentage increases reciprocally. At term the scalp hair may be 95 per cent anagen. This is virtually a biologic characteristic of pregnancy but usually it goes unobserved. Shortly after delivery this trend reverses, and by six - nine weeks post partum the telogen count is up to 25 - 30 per cent. At this time new anagen hairs begin pushing the relative excess of telogen hairs out, and patients may become aware of excessive hair loss. It should be understood that change in telogen percentage in the individual patient is more important than absolute values, since there is a wide range in the actual number of telogen hairs and in the rapidity with which they change to telogen. Hence the actual degree of thinning present at any given time is quite variable, if, indeed, it is even detectable.

Post-febrile alopecia, formerly seen quite often following scarlet fever, lobar pneumonia, etc., is uncommon now, but studies have shown that the process is essentially like that described for post partum telogen effluvium.[19]

Information on which to postulate the pathogenesis of post partum telogen effluvium has been sketchy and inconclusive. A retrospective study of 98 cases by Schiff and Kern gave information suggesting a hormonal basis. In their series two patients developed alopecia after caesarean sections. Most patients observed the greatest involvement on the anterior one third of the scalp. Most of the remainder had diffuse alopecia. In nearly all cases, hair loss had occurred after all previous deliveries or miscarriages. In those cases where it had not, subsequent conception had occurred before the second menstrual period. Determinations of urinary 17-ketosteroid excretion on 11 of these patients revealed no abnormalities.[35] Likewise, urinary 17-ketosteroids, 17-hydroxycortocosteroids, and gonadotropins on another series of nine patients were normal.[37] Studies of urinary estrogen and progesterone are lacking. Perhaps the hyperestrogenemia of pregnancy and the sudden termination thereof at delivery is pathogenetic. Bullough points out that estrogens exert a powerful mitotic effect on epidermis as well as on the uterus and vagina. Moreover, it is known that adrenalin is a powerful mitotic depressant. Its effect on epidermal cells has been confirmed in mice.[7] Since telogen effluvium apparently can occur after severe psychologic stress[19] and since it is known to occur after such physiological stresses as childbirth, major surgery, and severe illnesses, it could also be reasoned that adrenalin precipitates the change to telogen. However, Bullough further states that while these hormonal effects occur in epidermis, they have not been demonstrated in hair.[7]

If hormonal changes do influence telogen effluvium, they do not do so exclusively. Heparin, in addition to being an antimitotic agent, is known to induce telogen effluvium. Herein lies evidence at least that a depression of mitosis and a consequent premature change from anagen to telogen may be the common denominator. Furthermore, like the usual types of telogen effluvium, heparin-induced alopecia affects mainly the scalp. This is readily explained by the fact that scalp hair normally has a higher anagen percentage than other hair and is therefore more susceptible to mitotic inhibitors. The observation that the administration of 300 mg of heparin daily for seven days will induce telogen effluvium in virtually all subjects observed tends to minimize the importance of individual variations in patients. The conversion to telogen in these patients occurs a few weeks to a month or more after the heparin is given. Telogen percentage may rise to over 50 per cent, but, as in the post partum situation, actual alopecia is not often manifest. Perivascular collagen degeneration has been seen in some histological studies,

but the significance of this, if any, is unknown. Such changes have been seen also in other types of alopecia.[19]

Idiopathic Alopecias

A. **Alopecia Areata**

Although it may be somewhat arbitrary to designate this disease as "idiopathic," and those previously discussed as "physiologic," there is reason for doing so. Infantile alopecia and telogen effluvium can be demonstrated in most individuals under the proper circumstances, and the change in the hair is sufficiently predictable to give credence to the pathogenic mechanisms proposed. Such relationships are not readily established in alopecia areata. It is clearly a disease entity and not just a physiological phenomenon. A single cause has not been established, but histologic observations attest to its basic inflammatory nature.

Alopecia areata has been the topic of several good reviews, the most recent and extensive of which is from the Mayo Clinic.[24] The incidence of this rather common disease has been about two - two and one-half per cent in the patients of large dermatology clinics. It is especially common among children and teenagers. It usually appears as one or a few bald patches on the scalp, although it may involve the whole scalp or even the whole body. Severe cases are more common in children. It is asymptomatic and the skin, except for the absence of hair, looks normal. The appearance of a depression in the involved areas is probably due to the loss of hair mass. In most cases regrowth occurs within a few months, although there is usually one or more relapses before regrowth is permanent. Individual areas often relapse or regrow independently of others. Initial extensive involvement, occurrence in very young children, and involvement in sites other than the scalp all portend a poorer prognosis for eventual regrowth. Permanent regrowth after total scalp alopecia occurs in only ten per cent of adults and hardly ever in children. Regrowth typically begins as pale vellus-type hairs that gradually assume the morphologic features of the surrounding hairs. In alopecia areata there are sometimes associated changes in other ectodermal structures. Pitting or brittleness of the nails occurs in four - 13 per cent. Posterior subcapsular cataracts have been seen occasionally in adults. About four per cent have vitiligo and about eight per cent have various thyroid gland disorders.

Most studies indicate a familial incidence of around 20 per cent. However, rarely is the disease present in more than one relative. Also, considering the frequency of the disease, the significance of a 20 per cent familial incidence is probably less than it might appear initially. Those who consider genetic factors of importance state that the pattern is probably autosomal dominant with variable penetrance.[25, 8]

Traditionally, emotional crises have been considered important at least in precipitating alopecia areata. Estimates of the degree of association between the two vary greatly. Studies of this alleged relationship are all too few and too limited in scope to be of much value.

Attempts to establish a hormonal basis for this disease have been generally unsuccessful. Relationship of the activity of the disease to pregnancy is unpredictable except in individual cases, where repeated remissions or exacerbations have occurred in repeated pregnancies. Apparently it has long been tempting to speculate on a thyroid dysfunctional cause. However, among the relatively frequent cases of thyroid disease are hypothyroidism, hyperthyroidism, endemic goiter, thyroiditis, etc., so that no thyroid hormonal pattern can be assumed. According to Rook, both hypothyroidism and hyperthyroidism tend to delay the onset of anagen phase and hence cause an increased telogen to anagen ratio.[33]

Most sources of information on the histopathology of alopecia areata emphasize the following features: A chronic inflammatory reaction is seen around the lower one third of the hair follicle, primarily around the bulb. The dermal papilla begins to lose the strong staining reaction for alkaline phosphatase, which is characteristic of normal anagen follicles. The follicle becomes smaller so that it lies progressively higher in the dermis. Eventually the whole structure is abortive and produces little or no hair. A thickened connective tissue sheath remains behind as evidence of what was once a normal anagen follicle. At this time the appearance is much like that of an ordinary telogen follicle except for inflammation around the bulb. The hair root is pointed rather than clubbed like a normal telogen hair.

Further observations of alopecia areata have revealed other similarities to telogen effluvium. Biopsies of the scalp at sites distant from lesions of alopecia areata, where the hair appears normal grossly, have revealed decreased normal anagen hairs, slight perivascular inflammation and areas of abortive follicles typical of alopecia areata. Similar but more pronounced changes, plus increased numbers of telogen follicles, have

been seen in biopsies from the borders of alopecic lesions. Grossly these borders show thin, often broken hairs, that are narrowed at their insertion, resembling exclamation points. Thus alopecia areata seems to represent a combination of "telogen alopecia" and "dystrophic anagen alopecia."[6]

Cormia and Ernyey[13] have emphasized vascular occlusion as a possible pathogenetic factor. They feel that even though the inflammatory reaction seems to be the first recognizable event, vascular occlusive changes secondary to this may be the actual cause of the follicular shrinkage. They observe that in severe alopecia areata, i.e., alopecia totalis, very little blood supply remains, especially around the bulb. Ikeda[16] has also observed small artery occlusion followed by thrombus formation early in the course of alopecia areata. With the regrowth of hair, whether spontaneous or hastened by intralesional injection of a corticosteroid, the inflammatory infiltrate resolves, the blood supply increases and the follicle returns to a normal anagen appearance. Although this evidence favors some vascular occlusive process in alopecia areata, such changes are not peculiar to this disease. In fact, most types of alopecia show histologically some decrease in blood supply. However they do not appear to be directly related to an inflammatory infiltrate as they do in alopecia areata.

Intralesional injection of corticosteroids, preferably of the insoluble types, is the best treatment presently available for alopecia areata. It appears that this treatment probably does not alter the ultimate prognosis but simply hastens regrowth in those lesions where regrowth is due in the future.[26] Unfortunately, intralesional steroid injection is sometimes attended by complications. The usual ones are not ordinarily serious. Subcutaneous injection sometimes produces a temporary subcutaneous fat atrophy. Intradermal injection sometimes causes dermal atrophy which may be permanent. The most serious complication has been reported from France. Three young women whose anterior scalps were being injected for alopecia developed sudden blindness with head and eye pain. It was reasoned that forceful injection of a steroid particle suspension (Depo-Medrol^{R} in two cases) entered a branch of the superficial temporal artery. From here there was retrograde flow into the anastomosing supraorbital branch of the ophthalmic artery and on into the ophthalmic artery, thence to the central retinal artery where sudden occlusion occurred.[4] Obviously injection into the scalp must be done carefully, despite the rarity of this complication.

B. **Pseudopelade (Brocq, 1885)**

Discussions of this type of baldness are usually characterized more by disagreement than by elucidation. The disagreement stems from the question of its existence as a discrete entity. Contrary to the original description of the disease as a primary, atrophic, scarring alopecia, some have preferred to think of it as secondary to lichen planus or discoid lupus erythematosus or something else.

The usual characteristics of pseudopelade are a patchy and confluent, insidious, asymptomatic, atrophic and cicatricial alopecia, according to Laymon and Murphy's description. It is seen in adults, mostly women, and is progressive and irreversible. The alopecic areas are depressed and glossy with obliteration of follicular orifices. Most observers recognize a faint erythema at the borders. Sometimes the differentiation from alopecia areata (syn. **pelade**) is not so clear as the classical description of pseudopelade implies. Histologically there is inflammation in the upper portion of the hair follicle with eventual destruction and obliteration of the follicle.[32]

Regarding the disagreement over the status of pseudopelade, it matters little whether Brocq's original cases represented truly a primary process or the residual of some inflammatory condition. The diagnosis is made entirely on **morphologic** grounds, and the scope of the diagnosis must be narrowed as **etiologic** information is gained about various alopecias that may produce what some have called the "pseudopeladic state." As causes are discovered these alopecias must be removed from the pseudopelade category. Eventually the usefulness of this term may disappear.

Hereditary-Patterned Alopecia

This term refers to the very common frontal and occipital balding that begins at sexual maturity in men, and in women around the menopausal age, the so-called "diffuse female alopecia." In the male especially, the distribution of this alopecia differentiates it from others. There is progressive hair loss in the frontoparietal areas and, to a lesser degree, in the frontal area, and hair loss in an oval configuration at the crown. These areas often merge to produce the familiar marginal "horseshoe" of remaining hair.

It should be realized that there is normally a limited frontal and parietal recession of the

hairline in nearly all persons after puberty. Although this is hormonally induced it is separate from true patterned alopecia.

Diffuse alopecia is the female counterpart of patterned alopecia in males. There is a less severe progressive hair loss in the vertex and frontoparietal areas, and this is usually first observed as an increased amount of hair clinging to the hair brush. This may be gradual or intermittent, and the hair may become less manageable. Some patients notice increased oiliness of the scalp. There may be vague symptoms of tingling, itching, or a crawling sensation of the scalp. In most cases there is no significant regrowth. In neither men nor women is there complete baldness. Close inspection always reveals considerable numbers of fine, short, pale vellus hairs on the apparently bald areas. Quacks often take advantage of the fact that patients do not notice these hairs, and point them out as evidence of hair growth after whatever treatment has been given.

There are three prerequisites for the development of hereditary-patterned alopecia in both males and females: (1) the presence of sufficient circulating levels of androgens, i.e., sexual maturity, (2) the genetic predisposition (autosomal dominant, incomplete) to develop the condition, and (3) the age of late adolescence or older.

Eunuchs and hypogonadal females do not develop this alopecia because they lack testicular and ovarian androgens respectively. Apparently adrenal androgens are insufficient to induce the condition. With proper hormonal replacement therapy, and with the genetic predisposition, these people would develop alopecia. Since the inheritance is dominant, both heterozygotes and homozygotes are involved. It tends to be more severe in the latter.

Histologically there is progressive shrinkage of follicles and hairs in a random fashion. The connective tissue sheaths of follicles remain behind. The anagen period is shortened, resulting in shorter hair growth and more telogen hairs. Eventually only tiny vellus hairs are produced from miniature follicles, and many follicles have completely degenerated. The sebaceous glands remain, and are proportionally enlarged if not actually enlarged. There is a general reduction in blood supply to the scalp in patterned alopecia as there is with increased age normally. This has not been shown to be a causative factor.[13]

Papa and Kligman were able to induce regrowth of perhaps ten - 15 per cent of terminal scalp hair in bald men of various ages by rubbing one per cent testosterone propionate ointment on the scalp. Others have been unable to duplicate their results. The paradox is apparent here, that circulating androgen induced the baldness in the first place and topical androgen seemed to reverse it. Obviously the local effects on the hair follicle must be pharmacologic rather than physiologic.[28] Testosterone proprionate is apparently well absorbed percutaneously, and could theoretically at least cause pituitary inhibition. There has been considerable interest recently in the surgical treatment of hereditary-patterned baldness by the multiple punch graft technique. The various aspects of this treatment have been discussed at length in dermatological literature during the past several years.

Studies on urinary androgen excretion in women with diffuse alopecia have not been impressive generally. However, one study has revealed significantly elevated urinary testosterone excretion on 30 women with diffuse alopecia when compared to control levels.[2] Considerable attention has been given to possible thyroid dysfunction in women with diffuse alopecia. There is little evidence to support such a relationship and those allegations have been based primarily on observations that some patients have seemed to improve while taking thyroid. It is well recognized that myxedematous persons tend to have sparse "coarse" hair and rough scaly skins. Careful studies of these observations are also lacking. The impression of coarseness is probably due to dryness. Thyroid hormone deficiency apparently does cause a slowing of mitoses in the skin with retention of stratum corneum and a decreased sebum production. The sparseness of the hair probably reflects decreased mitosis in the hair matrix and breakage of hair shafts.

Chapman and Main have reported on diffuse thinning of scalp hair in two post-menopausal women who were hypothyroid from long-term iodide therapy for asthma. The patients became euthyroid and grew their hair again after discontinuing the iodides.[9]

Traction Alopecia

This fairly common type of alopecia is seen principally in women and girls who repeatedly roll their hair tightly on brush rollers or who wear their hair in braids, pigtails or a bun. In each of these situations the hair in various places is subjected to long periods of firm traction. As a result, hair is either slowly pulled out or stretched and broken. Apparently no histologic studies are available to indicate whether

the traction induces a premature telogen phase or inflammatory reaction, or whether the hair is simply pulled out and the remaining matrix cells continue to proliferate and produce a new hair.

The areas affected depend, of course, on the site of the greatest traction. With ponytails and buns the greatest traction is marginal, i.e., along the temporal and retroauricular borders. With braids the midline of the scalp sagittally also is affected. Brush rollers induce alopecia in multiple patches, marginally, sagittally and at the frontal border. Close inspection reveals various degrees of hair loss in the various patterns, short tapered hairs of new anagen growth, and broken off hairs. Occasional folliculitis may be seen but the scalp otherwise appears normal. If the trauma is discontinued regrowth usually is complete in three - four months, although scarring from folliculitis and severe trauma may cause some permanent loss. [21]

Savill has observed that similar problems result from the use of hair brushes with sharp-edged bristles. Apparently vigorous and frequent brushing can cause fracturing, fraying and even extraction of hair. Brushes with natural rather than synthetic bristles are less likely to cause this.[34]

Miscellaneous Traumatic Alopecias

Certain rare, sometimes familial, structural abnormalities of the hair, including **trichorrhexis nodosa** (intermittently splintered hair), **monilethrix** (beaded hair) and **pili torti** (twisted hair), are characterized by fragility and breakage of the hair of the scalp and other areas with minor trauma. These abnormalities are sometimes parts of congenital neuroectodermal syndromes, and have been linked with arginosuccinic aciduria, an abnormal urinary amino acid excretion pattern. However, recent studies have shown, in the case of trichorrhexis nodosa, that the urine is usually normal, the patient is healthy, and that the splintering and fracturing are caused by trauma especially brushing, teasing, and scratching.[10] In fact this abnormality can be produced in normal hair **in vitro** by subjecting it to artificially controlled manipulation of a specific type.[27]

The problem of **trichotillomania** (pulling of hair by the patient) is not encountered frequently but is a difficult management problem. Patients are usually loath to admit that they have pulled out or broken their hair as a result of some nervous habit or psychoneurosis. Indeed, they may not even be aware of it. The appearance is usually that of broken hairs and loss of hairs in one or more areas where the patient has continually pulled or twisted or curled the hair around a finger or scratched the scalp. The areas involved cannot be explained on the basis of brush rollers or other cosmetic procedures. The treatment is directed at convincing the patient of the nature of the difficulty, and sometimes the use of psychotherapeutic measures. The problem may be solved by having the patient wear a wig so the hair is not easily accessible.

Postoperative pressure alopecia has been listed as a distinct entity. Abel and Lewis[1] reported eight cases in young and middle aged women. These women had been on an operating table in the Trendelenburg position, for six hours or more in most cases, for gynecologic surgery. As a result of continuous pressure on the supraoccipital area there was rapid hair loss in this area from three- 28 days postoperatively. Most of the patients had been hypotensive for a time during surgery. Five of the eight had edema and exudation of the affected area within two days. Otherwise the patches resembled alopecia areata. Regrowth occurred in all cases within three months.

The histological findings were interesting. The outstanding change was an obliterative vasculitis of the middle and lower dermis, along with shrinkage and shortening of the hair follicle. A perivascular chronic inflammatory infiltrate was seen and in two cases panniculitis occurred. A similar alopecia has been observed over lumps in the scalp, in bruises, and in areas of furunculosis where scarring was minimal.

Post-Inflammatory Alopecias

Included in this category are those situations in which inflammation has been severe enough to cause destruction of the hair follicles and scarring. It is not the purpose of this paper to dwell on these. Some have been discussed already under other headings. However, one of these, alopecia mucinosa, is a unique entity with possibly serious implications and deserves special mention.

Alopecia mucinosa was described by Hermann Pinkus in 1957, from observations on six cases.[29] These patients had one or more alopecic plaques on the head and extremities. The plaques were of slow onset and progress, yellow-brown, variably indurated, usually with patulous follicles and fine scale, and were asymptomatic. Children and adults of both sexes were involved. Histologically there was mucinous edema of the hair follicles and sebaceous glands until the whole pilosebaceous apparatus became an ede-

matous bag. There was variable chronic inflammatory infiltration with secondary destruction of parts of the follicle. Pinkus believed the disease was basically inflammatory. However, Kin and Winkelmann state that the mucinous infiltration usually precedes the inflammatory reaction.[17]

Five years later Pinkus discussed the follow-up of his original cases and compiled information on 63 additional cases from the literature.[30] Some lesions appeared as groups of follicular papules. Some follicles were plugged rather than patulous, and contained stubby hairs. Still other lesions were moist and appeared eczematous. Hypesthesia was reported in some. Histo-chemical studies revealed increased amounts of glycogen in the follicles, and indicated that the mucinous material was acid mucopolysaccharide and mucoprotein. Most cases were self-limiting within a few months but in a few, an association with lymphoma was seen. Four of the patients either developed lymphomas or their alopecia mucinosa was secondary to pre-existing lymphomas. One-half of all the cases were under the age of 30, and one-third were in the 11-20 age group. Half had more than two lesions. In a later discussion,[31] the clinical appearance has been divided into three categories: (1) like lichen spinulosis (groups of follicular papules with stubby hairs), (2) coalescent follicular papules with an eczematous surface, and (3) red boggy infiltrated plaques. The first type is the most common and most benign. The second and third types are seen in adults only, are more chronic, and have a denser inflammatory infiltrate. These types include those that are lymphomatous, which, according to Braun-Falco, always occur in patients over 40 years of age, and constitute less than five per cent of all cases. In the cases reported by Kin and Winkelmann, some lesions changed from that of grouped follicular papules to plaques. Also, in 40 per cent of their cases alopecia was not prominent. The scalp was involved in 25 per cent of their cases.[17]

Treatment with topical corticosteroids or superficial x-ray has been effective in some cases. In those cases secondary to lymphoma, the treatment is that of the primary disease.

Alopecias Due to Mitotic Inhibitors

Almost any antimitotic drug, alkylating agent or otherwise, may cause alopecia if given in sufficient amounts. The worst offenders are vincristine, cyclophosphamide, and 5-fluorouracil. Since these drugs affect only actively dividing cells, the resulting alopecia can be called "anagen effluvium." However, local application of colchicine may induce a change to catagen phase. Smaller amounts of mitotic inhibitors will cause only a temporary suppression or cessation of mitosis. The result is a constriction in the hair shaft, of such length as to reflect the period of effect of the drug, but the hair cycle is not materially altered. Heparin-induced alopecia already has been discussed in the context of induction of the telogen phase. This drug is also a mitotic inhibitor and may cause alopecia in this way also. The coumadin compounds, heparinoids, paritol and dextran sulfate also cause alopecia. Apparently the mechanisms by which these compounds inhibit mitoses or induce telogen have not been elucidated.[15]

An ingenious method has been devised by which alopecia from intravenous antimitotic drugs can be inhibited. A special sphygmomanometer cuff is placed on the head just below the scalp margins and is inflated to above systolic pressure. The blood supply of the scalp is thereby occluded during and for five minutes after intravenous administration of the drug.[36]

Miscellaneous Alopecias

No attempt is made to discuss all reported causes of alopecia, but only those in which observations have been of sufficient depth to give some consideration to pathogenesis.

Several years ago a hypocholesterolemic agent, MER/29 (Triparanol^{R}) enjoyed brief popularity. It soon became apparent, however, that a large percentage of the patients receiving this drug developed side effects, the most notable of which was ichthyosis. Subsequent to this some patients developed progressive diffuse alopecia of the scalp, eyebrows, and pubic hair. The process was reversible when the drug was discontinued. An analysis of the cases from the Mayo Clinic indicated that 250 mg of the drug daily would not cause alopecia but that 750-1000 mg daily nearly always did.[22] The mechanism of this process was never elucidated. An antimitotic effect is unlikely because eyebrow and pubic hair grow quite slowly and are seldom affected by known mitotic inhibitors. A more likely explanation is defective keratin synthesis since the drug interferes with the synthesis of cholesterol, a significant component of keratin. The defect possibly was simply more obvious in the scalp, eyebrows, and pubis since hair is present in greatest density in these areas.

Another well-recognized cause of alopecia is thallium poisoning. Thallium acetate has been used in the past for epilation in treatment of

ringworm of the scalp. However, it is not regularly effective in removing all the affected hairs; furthermore, its great toxicity makes it unsuitable for therapeutic use. In fact, its principal use now is as a rodenticide. Its toxic effects are cumulative and are similar to those of lead. It is slowly excreted in the urine and bile.[14]

Ingestion of 7 - 8 mg/kg body weight causes anagen effluvium of an unphysiologic sort, with intrafollicular breakage of scalp hair and a high rate of conversion to catagen phase. With subsequent hair growth, as in other situations of excessive catagen and telogen conversion, a compensatory pause to re-establish non-synchronous cycles must be assumed.[3]

An interesting phenomenon is the occurrence of patchy alopecia on a clinically normal appearing scalp in patients with cutaneous metastatic disease, especially from the breast. This has occurred with introductal and scirrhous carcinomas and with ordinary adenocarcinoma. A resemblance to alopecia areata is apparent in early stages, but later the lesions tend to become red, nodular and indurated.[11] Here it is possible that tumor cell infiltrates of blood and lymph vessels not yet clinically visible are of sufficient extent to compromise the blood supply of hair follicles, or perhaps to destroy their matrices.

Conclusion

The foregoing remarks for the most part have stressed the pathogenesis of various clinical types of alopecia. Notable is the great similarity of pathogenetic mechanisms among greatly dissimilar clinical patterns. The conclusion is that regardless of what pathophysiology causes the alopecia, the response mechanism of the hair follicle tends to be the same or similar.

This is not unique to the hair follicle, nor does it obviate the need for recognition of the clinical types of alopecia. Management and assessment of prognosis must still be based largely on clinical diagnosis. As our present, limited understanding of pathogenesis expands, hopefully so will our ability to treat these patients more rationally and less empirically.

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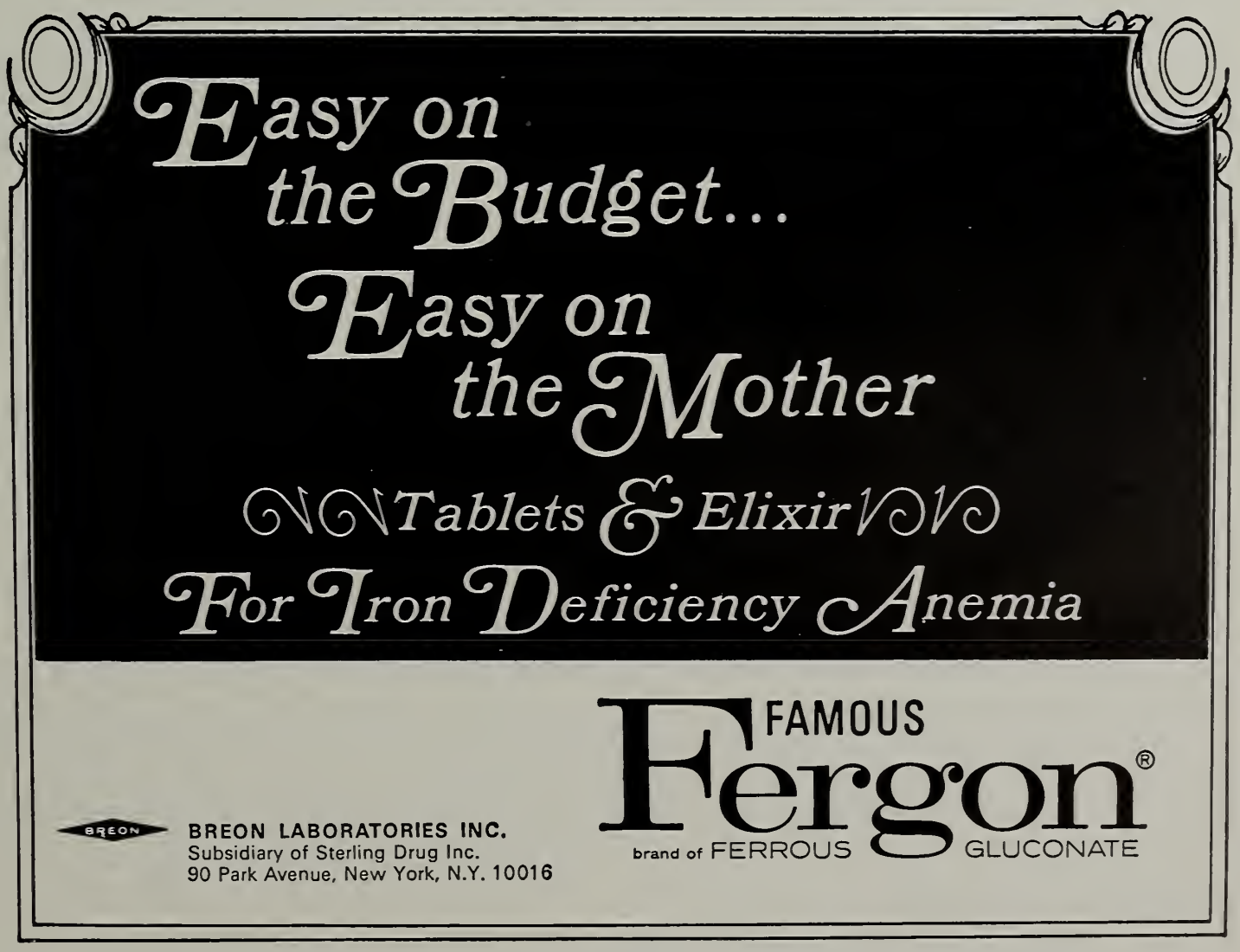
REP. GRIFFITHS PRAISES BLUE SHIELD'S ROLE IN MEDICARE

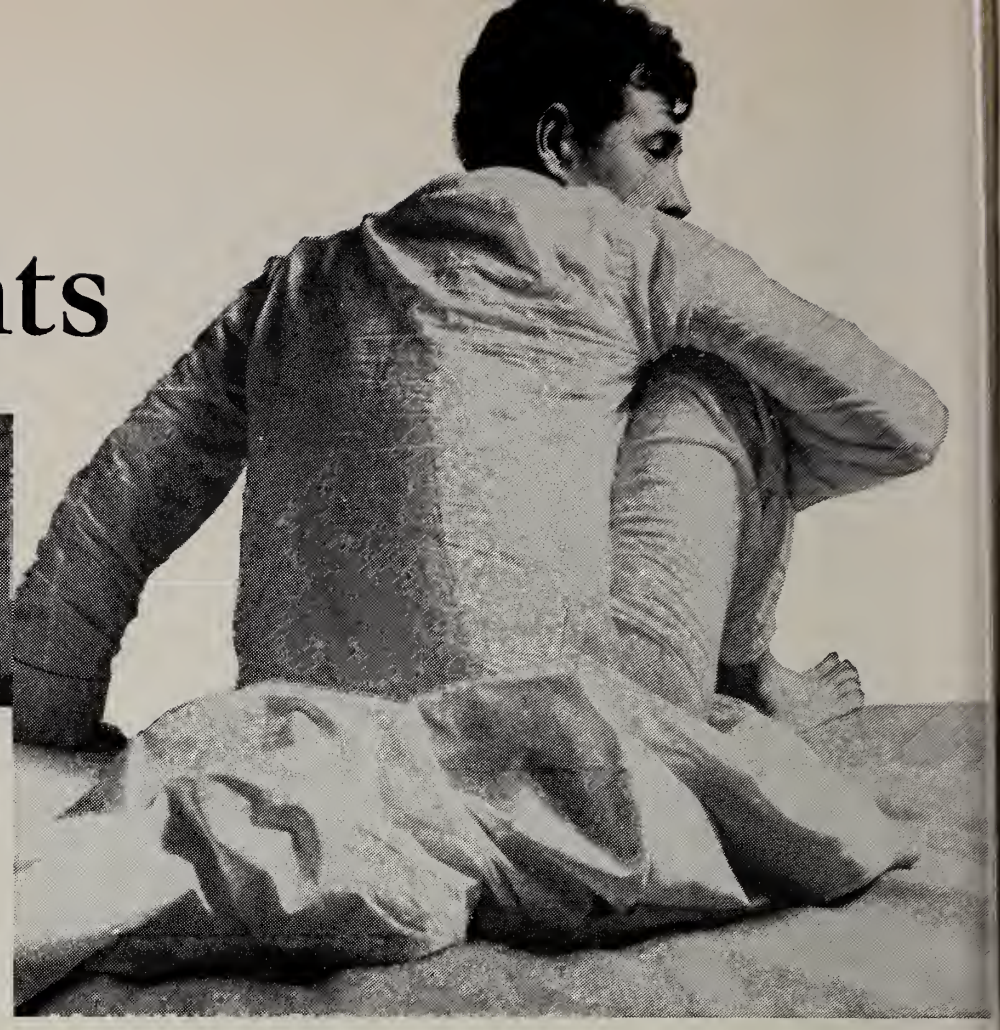
Rep. Martha W. Griffiths (D-Mich.) said Congress is pleased with the performance of the 33 Blue Shield Plans serving as Medicare Part B carriers. In a speech read for her at the Annual Business Meeting of Blue Shield Plans April 8 in San Francisco, Rep. Griffiths said there is no serious question among legislators "as to the soundness of our decision to make the fullest use of the private sector in this program." On the question of rising costs of health care, she urged Blue Shield to "show that the private sector in the health field can act responsibly and with flexibility and statesmanship to meet the challenges which now face us."

TRAFFIC DEATHS

Traffic deaths rose 13 percent during February over the corresponding month in 1967, according to the National Safety Council. In February there were 3,620 motor vehicle deaths, and in the first two months of the year there were 7,040 deaths — a gain of two percent after a drop of eight percent during January.



Open-eyed nights



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Contraindications: Known hypersensitivity to drug; children under 6 months of age; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in treatment of psychotic patients, and should not be employed in lieu of appropriate treatment. As with most CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may also be associated with temporary increase in frequency and/or severity of seizures. Advise patients against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance. Keep addiction-prone individuals (such as drug addicts or alcoholics) under careful surveillance because of their predisposition to habituation and dependence. Use of any drug in pregnancy, lactation or in women of childbearing age requires that potential benefit be weighed against possible hazard.

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Adverse Reactions: Side effects most commonly reported: drowsiness, fatigue and ataxia. Infrequently encountered: confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo and blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, use of the drug should be discontinued. Because of isolated reports of neutropenia and jaundice, periodic blood counts and liver function tests are advisable during long-term therapy. Minor changes in EEG patterns (low-voltage fast activity) observed during and after therapy and are of no known significance.

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1967 SOUTH DAKOTA TUBERCULOSIS MORBIDITY REPORT

Irvin S. Belzer, M.D.*

During the calendar year 1967, there were 119 new cases of active tuberculosis reported in South Dakota. This number is the first real drop in reported tuberculosis morbidity in the state since the Sanator was closed in 1963. The 119 reported cases constituted a morbidity rate of 17.5 cases/100,000 population, this rate representing a twenty-five per cent drop below the case rate of 23.3 in 1966. The 119 cases also represent the lowest morbidity rate since 1963 when the case rate was 13.6. Table I outlines the pattern of the newly reported cases of active tuberculosis in South Dakota for the period 1960 to 1967. Examination of this data reveals that of the 119 newly reported cases in 1967, 39 of them occurred in the white population, while 80 occurred in the Indian population. The respective incidence rates of these numbers are 6.0 and 297.4 cases/100,000 population. Thus, while the number of cases among Indians in South Dakota remains twice that of the white population, the case rate among the Indians is fifty times higher than that of the white population. Moreover, both these proportions have tended to parallel each other over the last decade. In 1967, as in the past few years in South Dakota, there were no new active cases of tuberculosis reported in Oriental, Latin American, or Negro individuals.

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Table II reveals the specific incidence rates of the 119 cases of tuberculosis reported during 1967 divided according to race and age.[2] For the white population of South Dakota, the figures reflect the national pattern of a higher rate among the 0-4 year old group than among the 5-14 year old group. This latter age grouping is often referred to as the "tuberculosis free years." For persons over 14, the case rate among adolescents and young adults gradually increases, reaching its peak of 12.5 for persons over 45 years of age. As a result, case rates among white adults over age 45 are seen to be twice those in the younger white age groups. This higher case rate ratio among persons over age 45 occurs nationwide for the white population.[3] However, for each age group specified, the South Dakota age-specific rate for the white population is one-half to one-third the national age-specific rate for the same population.[3]

For the Indian population no clear pattern or trend is evident in Table II. However, even for the Indian group with its overall high rate, the relatively "tuberculosis safe years" of the 5-14 year old age group shows up. Very striking are high case rates of the "15-24" year old age group and the "65 and over" age group. No specific reasons for the high rates of these groups are known. However, the rate in the adolescent group represents a decrease of 12% from the

TABLE 1

TREND IN SOUTH DAKOTA TUBERCULOSIS: NEW REPORTED CASES OF ACTIVE TUBERCULOSIS, 1960 to 1967

Year	Total Number of New T.B. Cases in South Dakota	Overall T.B. Cases Rate (a) in So. Dak.	New Cases in So. Dak. White Population	Case Rate (a) in So. Dak. White Population	New Cases in So. Dak. Indian Population	Case Rate (a) in So. Dak. Indian Population	Overall (a) Case Rate in United States
1960	122	17.9	38	5.9	84	348.5	30.8
1961	123	17.4	47	6.9	76	272.9	29.4
1962	120	16.6	39	5.7	81	283.2	28.7
1963	96	13.6	41	6.3	55	193.2	28.7
1964	131	18.7	44	6.5	87	307.8	26.6
1965	166	24.2	59	8.8	107	393.2	25.3
1966	158	23.3	45	7.0	113	410.9	24.4
1967	119	17.5	39	6.0	80	297.4	23.0 (b)

(a) Per 100,000 Population
(b) Provisional Figure, Tuberculosis Program, National Communicable Disease Center

case rate in 1966, while that in the elderly group represents an increase of nearly 8% over the previous year's incidence rate. Of the 15 actual cases which occurred in elderly Indian individuals, 11 occurred in men and 4 in women. No other medical or socioeconomic facts, such as other illnesses, alcoholism, housing status, etc., are known about these cases.

Table III identifies each of South Dakota's 119 cases reported in 1967. This chart separates the individual cases by age, by type and extent of disease, and by sex — male (m) and female (f). Significantly, of the 119 total cases, 6 were reported only at death or on autopsy, indicating that the disease had not been suspected during the life of the patient. Of the 101 cases of primary and pulmonary tuberculosis, 6 patients had evidence also of active tuberculosis involvement of non-pulmonary sites. In addition to these 101 primary and pulmonary cases, there were also reported 18 cases of active extra-pulmonary tuberculosis. These 18 patients had tuberculous

TABLE 2

1967 SOUTH DAKOTA NEW ACTIVE TUBERCULOSIS CASE RATE* BY AGE AND RACE

Age Groups	White Population		Indian Population	
	Number of Cases	Case Rate*	Number of Cases	Case Rate*
0 - 4	1	1.4	9	224.8
5 - 14	1	0.7	12	180.5
15 - 24	4	4.7	21	437.5
25 - 44	8	5.4	15	263.2
45 - 64	16	12.5	8	235.3
65 and over	9	11.9	15	963.2
All Ages	39	6.0	80	297.4

* Per 100,000 Population

TABLE 3

1967 SOUTH DAKOTA TUBERCULOSIS STATISTICS: 119 REPORTED NEW ACTIVE CASES

	Age	0-4		5-14		15-24		25-44		45-64		Over 65	
	Type	W	I	W	I	W	I	W	I	W	I	W	I
PRIMARY TUBERCULOSIS			FFF FFF M		MMM MMM M* FF								
PULMONARY TUBERCULOSIS													
Degree:													
	Minimal			F		FF	FF FF* MMM*	FF	FF	FFF	MMM	M	
	Moderately Advanced		M		F	F	FF FF* F*** MM	FF FF	MM** F***	MMM (M) FF	F	MM MM	MM F
	Far Advanced				M	F	MMM F	M	MMM MM FF	MMM	FFF FFF M	F	F MMM MM (M) (M)
NON-PULMONARY TUBERCULOSIS		F (lymphadenitis)	F (meningitis)		M (pleuritis***)		F M M (lymphadenitis) (miliary) (lymphadenitis)	M	M M M F (renal) (renal) (miliary) (tuberculoma of brain)	F	F (bladder)		FF(M) M(F)(F)M (skin) (lymphadenitis) (hip) (peritonitis) (liver) (miliary) (pl. effusion)

( ) Found at autopsy or reported at death
* Also, tuberculous lymphadenitis
M Male
** Also, genitourinary tuberculosis
*** Including pleural effusions
F Female

involvement of ten different organs and systems, including skin, lymph nodes, kidney, bladder, brain, meninges, liver, bone, and pleura. Thus, the notoriety of tuberculosis as a menacing disease with protean manifestations continued both in the white and the Indian populations of the State.

Of the 101 cases of primary and pulmonary tuberculosis reported, 33 (nearly one-third) were in the far advanced stage when first discovered. Six far advanced cases occurred in the white population, twenty-seven in the Indian population. These patients with far advanced disease when first discovered represent, to some degree, public health failures in that they were not discovered or uncovered by case detection methods early in the course of their illnesses. Rather, these people presented themselves to physicians with severe symptoms of their disease. This ratio (one-third) of far advanced cases to total pulmonary cases is the highest such ratio since 1963 when the ratio was 28 per cent. Similarly, many of the 15 Indian children reported with primary tuberculosis also represent failures in public health since most of these cases of primary tuberculosis could have been prevented by prophylactically treating these children with isoniazid either 1) when the children were first found to be reactors (converters) or 2) when they were examined as contacts to persons with active tuberculosis.

OTHER 1967 SOUTH DAKOTA TUBERCULOSIS DATA

The 119 newly reported active cases represented only a small portion of South Dakota's tuberculosis "burden" for 1967. In addition to these newly reported active cases the State

Health Department had on its active case Register on July 1, 1967, a total of 719 patients. These patients represent those individuals who have had active tuberculosis since 1960 and have shown less than 5 years of inactivity by radiologic and/or bacteriologic criteria. These individuals are kept under surveillance through five years of inactivity because of the risk of relapse of 2 per cent per year for this time period. Concerning contacts, the 119 newly reported cases had named 240 close (intimate) contacts. Of the 240 contacts, 156 were examined and in turn 9 were found to have active tuberculosis. This number yielded a case rate of 57.8 cases/1,000 examined close contacts and compared with the national case rate of 18.5 cases/1,000 close contacts. Additionally, in 1967, there were identified 419 new tuberculin reactors of varying ages; and 312 (75%) were placed on isoniazid prophylaxis.

GEOGRAPHIC DISTRIBUTION OF THE NEW CASES

The geographic distribution of the 119 newly reported active cases is as follows: Bennett 3, Brookings 1, Brown 2, Brule 1, Buffalo 2, Butte 1, Charles Mix 2, Clark 2, Clay 1, Codington 2, Corson 7, Custer 1, Davison 1, Dewey 8, Fall River 1, Hughes 2, Kingsbury 1, Lawrence 2, Lincoln 1, Lyman 1, Mellette 3, Miner 1, Minnehaha 5, Pennington 9, Roberts 2, Shannon 22, Spink 10, Stanley 1, Todd 13, Tripp 5, Washabaugh 1, Yankton 3, Ziebach 2.

FOOTNOTES/REFERENCES

1. Prepared by Irvin S. Belzer, M.D., USPHS, NCDC, Tuberculosis Program, presently assigned to South Dakota State Department of Health, Pierre, South Dakota, as Acting Tuberculosis Control Officer. All opinions expressed in this report are those of the author, and do not reflect necessarily those of the United States Public Health Service.
2. Population estimates provided by Division of Vital Statistics, South Dakota State Department of Health, based on calculated estimates in **Current Population Reports, Population Estimates,** Series P-25, No. 384, February 13, 1968, U. S. Bureau of the Census.
3. U. S. Public Health Service: **Reported Tuberculosis Data 1966.** PHS Pub. No. 638, prepared by the Tuberculosis Branch, Atlanta, Georgia.

MEDICAL SCHOOL APPLICANTS INCREASE

More persons are taking medical school admission tests, according to the April issue of **Datagrams,** a publication of the Association of American Medical Colleges. The report, covering the period from 1962 through 1967, showed a total of 17,270 examinees in 1962 as compared with 22,288 in 1967. This is a 29 percent increase in the five-year period.

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CARCINOMA OF THE THYROID GLAND*

A 15-Year Survey in Private Hospitals in Sacramento

James W. Martin, M.D., and William E. Dozier, M.D., Sacramento

■ **All cases of carcinoma of the thyroid gland diagnosed at two large hospitals in Sacramento during the 15 year period 1951-1965 were studied. Of the 232 cases diagnosed, 179 or 77.2 percent were papillary carcinoma. It was possible to trace 94 percent of all the patients, with a median follow-up of 6.5 years, and no deaths due to papillary carcinoma of the thyroid were found. The extent of operation did not appear to influence the course of papillary carcinoma of the thyroid.**

During the 15 year period of the survey here reported, the diagnosis and treatment of carcinoma of the thyroid gland have been widely discussed but as yet there is a striking lack of uniform opinion regarding the ideal management, particularly of thyroid papillary carcinoma. In general, the tendency of a number of investigators has been to recommend more radical operation,[2, 7, 12] and this is reinforced by reports from some centers showing a significantly high mortality rate from carcinoma of the thyroid gland, including papillary carcinoma.[6, 7, 8, 13, 16] The more radical approach has been supported by an increasing recognition of multicentric origin of thyroid carcinoma,[1] of the occurrence of bilateral disease,[7, 8, 10, 11] and of the problem of "stump recurrences."[1] In addition, evidence of metaplasia or transition from a less malignant to a more malignant form of the disease with the passage of years has led to a more aggressive surgical position.[6, 8, 11, 16]

The present study was begun in part because of comments by local pathologists that they had not performed an autopsy in Sacramento in a case of papillary carcinoma of the thyroid.

Materials and Methods

This survey is based on a follow-up of all the cases of carcinoma of the thyroid treated at two large private hospitals in Sacramento. To put the matter in proper perspective, it should be noted that the population of Sacramento County is now in excess of 600,000, and the hospitals in the city serve, to some extent, an equal number of people from outlying areas. During the period of this study, there were two major hospitals in Sacramento which have consistently expanded over the years. The present bed capacity of Sutter Community Hospitals is 541, and of the Mercy Hospital is 311, a total of 852. In recent years, two or three additional hospitals have begun operation in the Sacramento area, but these were not included in this review.

The number of hospital admissions and the number of operations performed in the Sutter and Mercy Hospitals during the period under review are shown in Chart 1. The admission rate for the Sutter Hospitals has increased from 14,-218 in 1950 to 26,530 in 1965. Similarly, the

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Reprint requests to: 2811 L Street, Sacramento 95816 (Dr. Martin).

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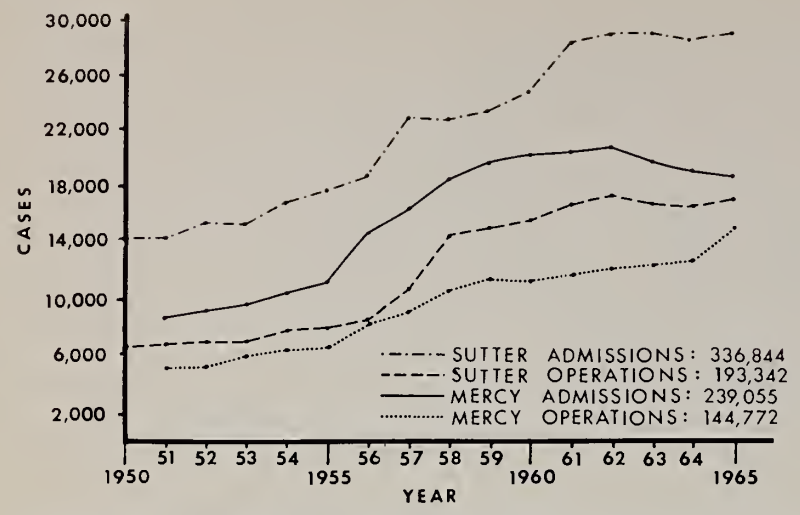

Chart 1.—Hospital admissions and operations, Sutter and Mercy Hospitals, 1950-1965.

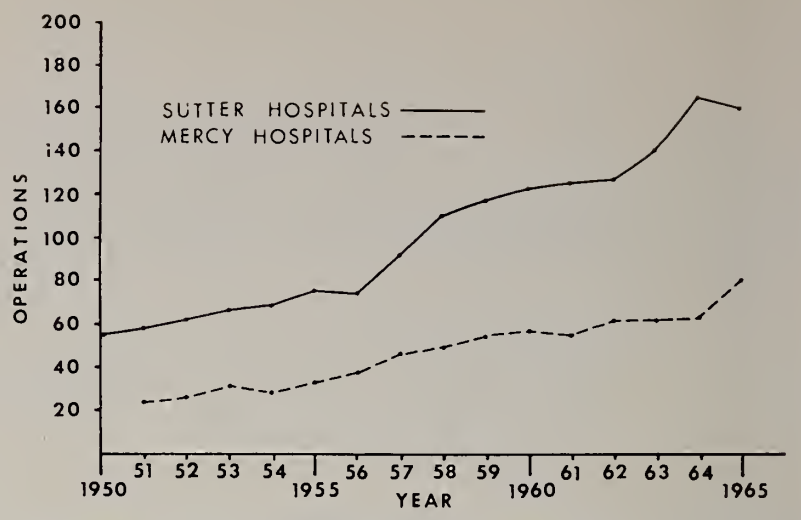

Chart 2.—Thyroid operations, all types, Sutter and Mercy Hospitals, 1950-1965.

Mercy Hospital has increased its admission rate from 8,823 in 1951 to 19,196 in 1965. The total number of admissions to the Sutter Hospitals over this 15 year period is 336,844 and to the Mercy Hospital is 239,055, for a total of 575,899 hospital admissions during this time.

The number of surgical procedures at these hospitals has increased (as shown in Chart 1). During this period the total number of operations performed at the Sutter Hospitals was 193,-342, and at the Mercy Hospital 144,772, and the total was 338,114. Thyroid gland operations of all types performed during this period have increased (Chart 2). The number of thyroid gland operations of all kinds at the Sutter Hospitals was 1,618 and the number at the Mercy Hospital was 704, a total of 2,322.

Carcinoma of the thyroid gland was found in 229 (10 percent) of this total of 2,322 thyroid operations. It is this group of 229 cases, plus three cases in which carcinoma was found at autopsy — 232 cases in all — that forms the basis for this report. The incidence of diagnosis of carcinoma of the thyroid has increased over the years as indicated in Chart 3.

Comparison of Charts 2 and 3 shows that while the number of thyroid operations has increased, the incidence of thyroid carcinoma has fluctuated rather widely, from a low of 4.1 percent in 1953 to a high of 15.2 percent in 1960, with an average incidence of slightly less than 10 percent. There has not been any increase in the incidence of carcinoma of the thyroid gland in patients who have had a thyroid operation during the 15 year period of this study. The year to year variation most likely represents variation in the histologic interpretation of the material by the various pathologists who examined the specimens.

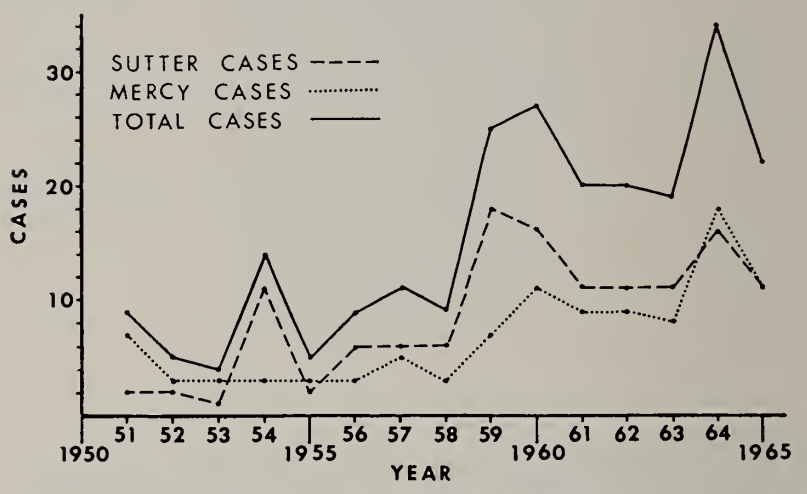

Chart 3.—Number of cases of thyroid carcinoma at Sutter and Mercy Hospitals, 1951-1965.

There are a number of ways of classifying malignant tumors of the thyroid gland, and it is not the purpose of this report to argue for any particular scheme of classification, nor to challenge the criteria for the diagnosis of the various carcinomas reported. The classification used in this report is one that is generally accepted, is utilized by our local pathologists, and seems to fit well with the material being studied. The types of carcinomas found are shown in Chart 4.

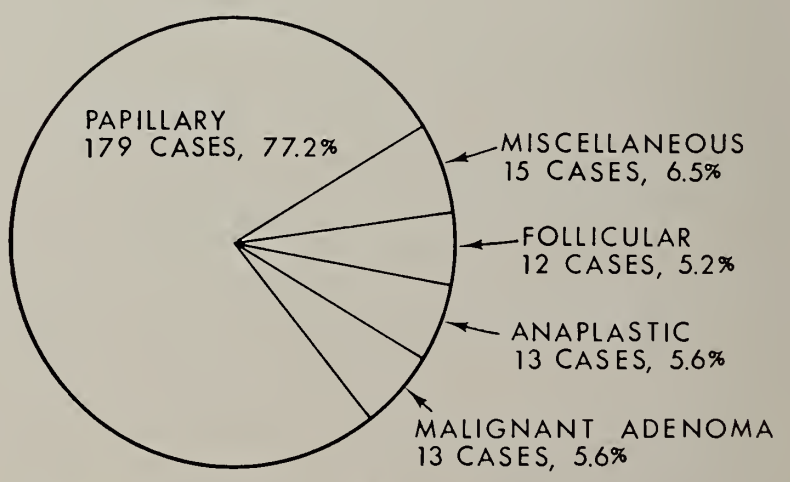

Chart 4.—Carcinoma of the thyroid, 232 cases, 1951-1965.

Of the 232 cases, 179 or 77.2 percent were papillary carcinoma, 12 or 5.2 percent were follicular carcinoma, and 13 or 5.6 percent were anaplastic carcinoma. In addition there were 13 cases (5.6 percent) of malignant adenoma and 15 (6.5 percent) miscellaneous carcinomas. The miscellaneous tumors included ten cases of sclerosing carcinoma, two cases of spindle-cell carcinoma, two cases of Hurthle cell carcinoma, and one case of clear-cell carcinoma. The age distribution of the patients reported was 6 to 84 years, with an average age at the time of initial treatment of 38.5 years. There were 172 female patients and 60 male patients, roughly a 3 to 1 ratio.

Method of Follow-up

The record rooms of the two hospitals and the pathology departments provided the initial listing of patients eligible for the study. Follow-up information was obtained from the tumor registries at the hospitals, as well as by direct personal contact by the authors with the surgeons who had provided the initial treatment or with the family physicians. In many cases, direct contact was made with the patient. Follow-up was considered complete only if the patient's condition could be identified up to and including 1967. With these criteria, the overall complete follow-up rate was 94 percent. Nine patients on whom follow-up information was available for a time and then were lost to follow-up were considered "partially traced."

The methods of treatment of the 232 patients in the series were as follows:

Less than one lobe removed	8
One lobe removed	80
Bilateral thyroid operation	133
Biopsy only	8
Found at autopsy only	3
Total	232

No attempt was made in the present study to differentiate among a bilateral subtotal thyroidectomy, a unilateral total lobectomy plus contralateral subtotal lobectomy and a bilateral total thyroidectomy, primarily because of difficulty in precise interpretation of the various operative reports. There were 106 patients in whom lymph nodes were examined, including 95 node dissections, eight biopsy procedures, and three cases in which carcinoma was detected at autopsy. Of these 106 patients, 88 had nodes positive for carcinoma. Because of the great variation in operative procedures, no attempt is made in this study to differentiate various types of lymph node resection or to determine the follow-up results based on various types of lymph node resections.

Findings

The results of attempted follow-up of these 232 cases were as follows:

	Papillary	Follicular	Anaplastic	Malig. adenoma	Misc.	Tot.
Living and well	157	9		12	13	191
Dead of other causes	9		1			10
Dead—surgical mortality	2					2
Dead of thyroid carcinoma			10		1	11
Found at autopsy only	1	1			1	3
Partially followed	5	2	1	1		9
Untraced	5		1			6
Total	179	12	13	13	15	232

The nine patients with papillary carcinoma of the thyroid known to have died of other causes had the following causes of death: Carcinoma of the ovary, coronary occlusion, leiomyosarcoma of the esophagus, uremia, cerebral vascular accident, suicide, acute leukemia, myasthenia gravis, and injuries received in an automobile accident. There were two patients who died of surgical complications. One of these died during operation with tachycardia, hyperthermia, and cardiac arrest, of suspected masked hyperthyroidism, and one patient died postoperatively from hemorrhage adjacent to tracheostomy.

Of the 13 patients with anaplastic carcinoma of the thyroid gland, ten died of the disease (all within a year of operation), one died of other causes, one is untraced and one has been only partially traced. Of the 12 with follicular carcinoma, nine are living and well, two have been only partially traced and in one the lesion was not found until autopsy.

There has been an accurate and complete follow-up up to and including 1967 on 217, or 94 percent, of the 232 patients, with the follow-up periods ranging from a minimum of two years to a maximum of 16 years, and a median of 6.5 years for those surviving. Of the total of 232, six are completely untraced, and nine patients have been partially traced for a period ranging from one to eleven years (median six years) and none of these patients are known to have died of thyroid carcinoma. For the purposes of completeness, a specific search of death records at the Sacramento County Hospital was made, and it was found that none of the untraced or partially traced patients in this series had died there

with carcinoma of the thyroid gland, either as a cause of death or as an accessory finding at death.

Certain aspects of follow-up were intentionally deleted. It is known, for example, that a considerable number of this group are receiving thyroid hormone by mouth, particularly those operated on in recent years, but information about the amount and duration of treatment is not accurate enough to justify reporting. A few patients received radioactive iodine, either to ablate remaining thyroid tissue or as treatment for suspected metastasis. It is also known that four patients are currently under observation or treatment for possible distant metastatic lesions. In only one case was there a serious suggestion of stump recurrence. The patient was a girl who at age 8 had a papillary carcinoma on the right side and at age 16 had a papillary carcinoma removed from the left side.

Discussion

The most striking finding of this survey is that there are no proven deaths due to papillary carcinoma of the thyroid gland in the 94 percent of the patients followed. This is in decided contrast to the reports of Frazell and Foote,[6] Silliphant,[13] Tollefsen,[16] and Hirabayashi and Lindsay.[7] The report of Hirabayashi and Lindsay, for example, shows an 11 percent mortality rate from papillary carcinoma of the thyroid gland in a series extending over 40 years. The series reported in this paper does not conform to the findings of a high incidence (12 percent) of multicentric tumors, as reported by Black,[1] nor does it indicate a high incidence of bilateral dissemination of the tumor, reported by Hirabayashi and Lindsay at 19 percent, and up to 88 percent by Ibanez and coworkers[8] at the M. D. Anderson Hospital in Texas. In the present series the incidence of recurrent or persistent tumor or "stump recurrence" was lower than the 5 percent reported by Tollefsen[15] and the 6 percent by Black.[2] It is of interest also, that, in the present series none of the patients who were seen first with papillary carcinoma was later found to have died of anaplastic carcinoma, and none of the patients who died of anaplastic carcinoma was shown to have started out with a papillary carcinoma. The concept of transition of malignant change to more undifferentiated tumors as suggested by a number of investigators, including Frazell and Foote,[6] Ibanez,[8] and Russell[11] from the M. D. Anderson Hospital, and Tollefsen,[16] from the Memorial Hospital in New York, was not supported in the present study.

There are at least two limitations in this study which require comment, namely, the number of cases and the length of follow-up. The present series of 232 cases, including 179 cases of papillary carcinoma, is of the same order of magnitude as the series of 328 cases of papillary carcinoma from the Mayo Clinic reported by Black[1] and the series of 390 cases of all types recorded by Hirabayashi and Lindsay.[7] The 700 cases reviewed by Tollefsen[16] from the Memorial Hospital and James Ewing Hospital in New York are not comparable because they include patients previously treated elsewhere, patients with very large tumors and patients with vocal cord paralysis or other evidence of inoperability.

As was stated above, the follow-up period of the present series extends from a minimum of two years to a maximum of 16 years, with a median of 6.5 years for all surviving patients. It has been repeatedly pointed out that even longer follow-up is necessary for proper evaluation of mortality rates. However, Frazell and Foote[6] noted that, of 47 patients with papillary carcinoma in their series who died, 27 were dead within the first five years. Likewise in Tollefsen's series,[16] the median survival time for all patients was five years, and if the patient was never cancer-free, the median survival time was only 14 months. If there was a cancer-free interval following operation, the median survival time was nine years, a figure not out of line with the present report.

Using the foregoing figures for comparison, one should expect a significant number of deaths in this report. The absence of death due to papillary carcinoma reported in the present series gives grounds for several possible interpretations. It is possible that certain of the carcinomas in this report are similar to the "occult carcinomas" described by Woolner,[17] with a zero death rate, or to the "laboratory carcinomas" mentioned by Frazell and Foote.[6] The findings of the present series are most in line with those of Crile,[5] who described 140 patients with papillary carcinoma of the thyroid gland followed by him over a period of five to twenty-five years, with the survival rate in women with the disease equal to the survival rate in the rest of the population. Crile excluded those cases of papillary carcinoma in which there were any areas of undifferentiated carcinoma, a distinction that was not made in the present study.

Another remarkable finding in the present series is that metastatic involvement of the

lymph nodes was shown in 95 of the 106 cases in which lymph nodes were available for study. One might speculate that the surgeons involved are particularly skillful in grossly detecting suspicious lymph nodes, but since it is well known that it is difficult to detect involvement of nodes by gross examination, it seems probable that there is residual carcinoma remaining in the lymph nodes of at least some of these patients. One must presume either that papillary carcinoma of the thyroid has a very low degree of malignancy or that other factors such as thyroid supplementation are suppressing the spread of the tumor for extended periods.

If the findings of other series are carried to their logical conclusions, operations would be increasingly radical in terms of resection of thyroid and lymph node tissue. There is considerable support in the literature for unilateral thyroid lobectomy on the side of the lesion plus subtotal resection of the opposite lobe, but bilateral total thyroidectomy is only recommended by a few observers, and many of the operations they carry out are not truly total thyroidectomy. In fact, Block[3] has shown that 32 percent of his patients have functioning thyroid tissue remaining after presumed bilateral total operation. The hazard of damage to the parathyroid glands is well known, and the incidence of postoperative hypoparathyroid tetany, ranging from 50 percent permanent tetany as reported by Black,[1] down to 12.8 percent permanent tetany as reported by Clark,[4] must force even skilled surgeons to seriously consider the risks.

There has also been a considerable tendency in recent years toward more radical resection of regional lymph nodes. No support can be gained for this in the present series, and there appears to be at least some theoretical reason to question the logic of routinely extending lymph node dissection to the jugular nodes, since it has been shown by injection studies in human patients at operation that the lymphatic drainage of the thyroid gland goes as much to the lymphatic chain in the tracheal wall itself and to the nodes in the tracheoesophageal groove, mediastinum and thymus as it does to the nodes encompassed in a standard or modified radical neck dissection.[9, 14] The results of this survey imply that radical operation is not the **sine qua non** for prolonged survival with papillary carcinoma of the thyroid gland, and that any operation, of whatever extent, is unsatisfactory for anaplastic carcinoma.

Summary and Conclusions

- The reported cases represent a 15-year survey of all cases of thyroid carcinoma diagnosed in two large private hospitals in Sacramento.
- Two hundred and thirty-two cases of carcinoma of the thyroid are reported, including 179 of papillary carcinoma, 12 of follicular carcinoma, 13 of anaplastic carcinoma, 13 of malignant adenoma, and 15 of miscellaneous malignant lesions.
- In follow-up studies 94 percent of the entire group was accounted for over a 15-year period.
- There are no deaths due to the disease in the group of 179 cases of papillary carcinoma of the thyroid thus followed.
- Anaplastic carcinoma of the thyroid gland is uniformly and rapidly lethal regardless of treatment.
- The extent of the operation does not appear to significantly affect the course of papillary carcinoma of the thyroid gland.
- Other factors, such as the use of thyroid hormone postoperatively, may be responsible for the prolonged survival of patients with papillary carcinoma.
- There is a conspicuous lack of clinical findings in this series to support the concept of multicentric tumors, bilateral involvement of the gland, intraglandular spread and transition to more malignant tumors.

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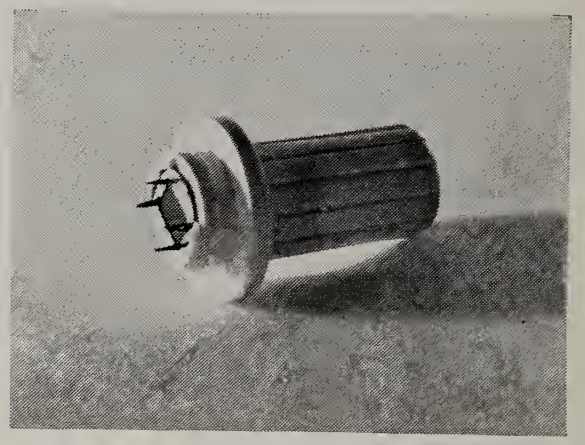

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Basic research into problems of drug toxicology, a variety of conferences in various fields, and special educational programs are among the activities supported by $1.3 million in awards made by the Pharmaceutical Manufacturers Association Foundation since its inception in 1965. Included in the $1.3 million are funds for research on drug efficacy and adverse drug reporting studies, efforts aimed at improving animal tests, projects for the study of chemically induced changes at the subcellular level, and work in the fields of pediatric and fetal pharmacology.

EMPHYSEMA SECOND LEADING CAUSE OF ADULT DISABILITY

Emphysema is now second only to heart disease as a cause of adult disability, reports Dr. Benjamin Burrows, associate professor of medicine, University of Chicago. Reported deaths from the condition, whatever its cause, have doubled every five years since 1945, he said. The true death rate undoubtedly exceeds that of lung cancer, according to Dr. Burrows.

UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE ADMISSIONS

J. N. Spencer, Ph.D.*
Associate Professor of Pharmacology
Chairman, Medical School Admissions Committee

On various occasions inquiries have been received regarding admission to the School of Medicine at the University of South Dakota. Such interest is welcomed and appreciated. With approximately 1000 applications received yearly for the small number of positions available in our entering class, only the most qualified students can expect to be admitted. This disparity between the number of applicants and the number of positions available to first year students in medical schools is not limited to the University of South Dakota. It is common to all medical schools in this country. In view of the present shortage of physicians, all medical schools strive to select from their pool of applicants only those individuals who demonstrate the capability of completing four or more years of medical study and who upon entering practice will be a credit to the profession.

The School of Medicine receives its primary support from the State of South Dakota. In common with most state supported educational institutions, applications for admission received from South Dakota residents are considered before those of non-residents. In addition, if a resident applicant is deficient in his admission requirements final action on his application may be deferred until he has demonstrated that he can complete the requirements before entering medical school. This may necessitate his attending summer school, but will in no way jeopardize the probability of his obtaining admission to the entering medical class. Other than residence, selection of an individual for admission to medical school is based upon (1) personal qualities, (2) level of scholastic achievement, and (3) Medical College Admission Test scores.

The personal qualities so essential for an acceptable physician are difficult to evaluate in the young candidate applying for admission to medical school. Letters of recommendation from college professors or physicians acquainted with the individual can be helpful. Letters commenting on the applicant's character, social background, ability to accept responsibility, reliability, and interest in medicine are invaluable to an admissions committee, but few writers of letters of recommendation possess this type of knowledge of an applicant. Consequently, great emphasis is placed on the personal interview. All individuals completing their application for admission to the School of Medicine are interviewed by the Admissions Committee or its representatives. The interviewer is interested in everything pertaining to the candidate and the candidate is encouraged to ask questions. If a dialogue can be set up between the applicant and the interviewer, considerable knowledge regarding his goal in life, his emotional stability,

* University of South Dakota School of Medicine
Vermillion, S. D.

his extra-curricular activities, and his motivation toward medicine may be obtained within a very short time. No penalty is assigned to the young individual who is a bit shy or mildly reticent in his expression, but the individual who is slow to respond or cannot remember how he spent his past vacations is not likely to become a satisfactory medical student.

Most students desirous of entering the study of medicine recognize that the level of their college grades is an important factor in obtaining admission to medical school. All medical schools prefer students whose grades are mostly A's and B's. The only exception would be the student who did poorly the first semester in college and then recognized his shortcomings and thereafter obtained better than average grades. This emphasis on grades, however, should not be misinterpreted. The individual who spends all of his free time on his studies may have an impressive transcript, but is not necessarily any more likely to succeed in medical school than the applicant whose transcript shows a number of D's and F's. The candidate who has participated in extra-curricular activities, or perhaps worked part time during the school year, and still maintained a substantial grade average has a far greater probability of success. His transcript may not be overly impressive, but he has learned how to apply himself and is more apt to be able to meet the demands of medical school.

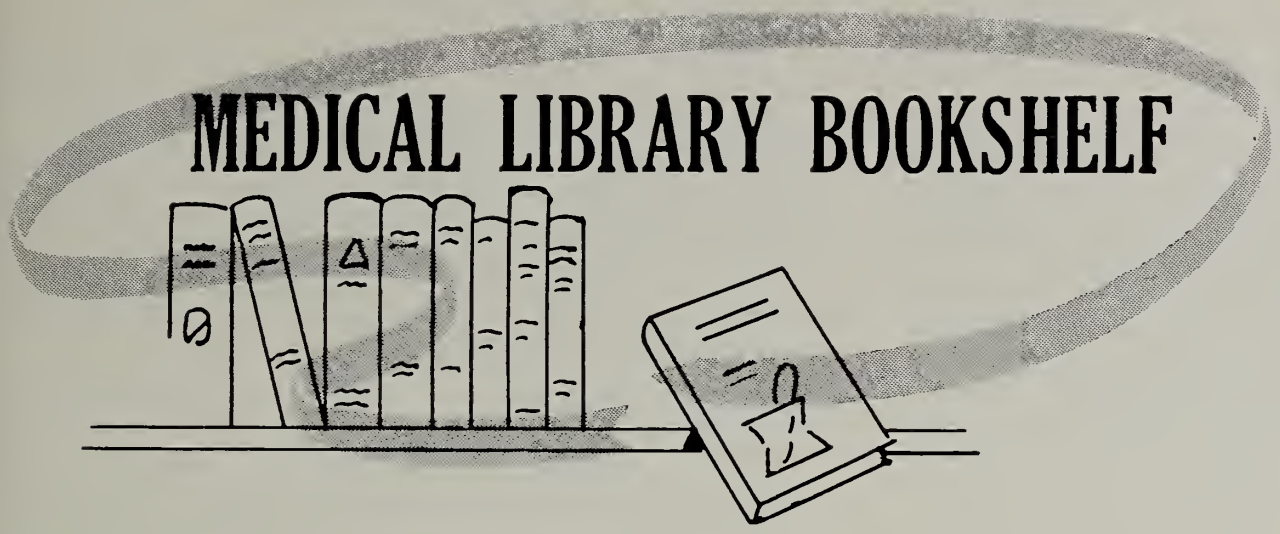
The Medical College Admissions Test (MCAT) may be considered an examination covering the entire educational experience of an individual. It is a standardized test, prepared and graded by The Psychological Corporation, a recognized national educational testing service. All medical schools in the United States require or strongly recommend that the test be taken by students prior to submitting an application for admission to medical school. The MCAT, which is offered in May and October of each year, consists of four subtests. The Verbal Ability subtest samples the individual's knowledge of vocabulary. The subtest on Quantitative Ability requires the application of basic mathematical concepts in problem solving. The results obtained may be considered an indication of the candidate's reasoning ability. Also, there is a direct correlation between the results obtained in these two subtests and the candidate's overall scholastic aptitude (I.Q.).

The General Information subtest presents an evaluation of the individual's overall cultural knowledge. It offers an indication of the broadness of the student's educational background. The fourth subtest, Science, samples the applicant's scientific knowledge, particularly that found to be important in preparing for the study of medicine. The level of achievement is an indication of the knowledge which has been acquired in courses in college physics, chemistry, and biology. An individual doing poorly in this subtest could not be expected to do well in medical school.

There is no passing or failing grade for the MCAT. Each subtest is scored on a standard scale ranging from 200 to 800. Since the level of achievement in the test is dependent upon recall, there is little probability of an individual being assured of high subtest scores by the study of any book or review of any one subject. From the standpoint of those involved in the selection of medical students, the value of the MCAT is that it offers a far more reliable means of comparison of the scholastic abilities of students from diverse social and academic background than their grade average. Also, there is a close correlation between the magnitude of the test scores and the ability of an individual to handle the course load required of medical students. The applicant with scores below the national average, particularly in the Quantitative Ability and the Science subtests, is not likely to succeed in medical school. Consequently, medical schools tend to limit their acceptances to candidates having above average MCAT scores.

In addition to questions regarding admission, we are frequently asked: Why does the School of Medicine accept non-resident applicants? Are there not enough young South Dakotans qualified for admission to medical school to fill the small entering class? Actually we have no knowledge of the number of South Dakota residents who enter the study of medicine each year. Less than 10% of the total applications received are from South Dakota residents. There must be at least an equal number of South Dakotans entering the study of medicine who never submit applications to the University of South Dakota. In addition, 10% to 20% of the residents submitting applications for admission to this medical school subsequently withdraw their application to attend other schools. The reason given for this varies, but probably the most frequent is that South Dakota does not have a four year medical school. Regardless of this, the limited number of South Dakota applicants combined with the with-

(Continued on Page 71)



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AMERICAN MEDICAL ASSOCIATION TO SPONSOR TENTH NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS

The Tenth National Conference on the Medical Aspects of Sports, sponsored by the American Medical Association under the auspices of its Committee on the Medical Aspects of Sports, will be held in Miami Beach, Florida, at the Hotel Deauville on December 1, 1968. The Conference is held annually in conjunction with and on the first day of the Clinical Convention of the American Medical Association.

As was true of the previous nine Conferences, the Tenth will cover a wide range of subjects of interest to those serving school and college athletic programs. Included will be forums on management of knee injuries, back problems, and problems related to vision in sports. Other sessions will be devoted to a series of clinical concerns in sports warranting increased attention (eg, cauliflower ear, pulled muscles, facial injuries, and communicable disease). One discussion session will be devoted to the controversial issues affecting participation of young athletes, another to health and safety considerations in the conduct of acquatic activities.

The featured luncheon speaker will be Payton Jordan, Head Coach of the 1968 U. S. Olympic Track and Field Team, who will discuss "The Olympics in Retrospect."

The Conference is open to key nonmedical athletic personnel as well as interested physicians. Those who would like to receive further information concerning the Conference should address the Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

ONAMIA, MINNESOTA, will be needing one or two general practitioners to take over well established practice which will be vacated July 15, 1968. Present doctor leaving area. Beautiful 31 bed general hospital; 40 bed C&NC unit attached. Almost new clinic building available with dental suite occupied. 3 doctors from nearby towns on staff. Area population near 5000 permanent residents; eight to ten thousand summer lake residents and tourists. Hospital and town located on shores of Onamia Lake; famous Mille Lacs Lake only two miles distance. Many other desirable lakes for year around living right close by. Town has 3 industries, Crosier Seminary, good schools, churches of different faiths. Two golf courses in area. Excellent community; healthy place to live; fishing, hunting, summer and winter sports. Practice has excellent potential. Away from the madding crowd, yet just a short distance to Minneapolis, St. Cloud and Brainerd. Make the move to Onamia and Mille Lacs Lake where living is fun — where you'll have something to shout about. Contact M. E. Engstrom, Asst. Administrator, Community Mercy Hospital, Onamia, Minnesota 56359. Phone (612) 532-3154.

THE MONTH IN WASHINGTON

The federal government has established a new agency and appointed two new advisory committees in the health care field.

The new agency is the National Center for Health Services Research and Development. The committees are:

1. The Medical Assistance Advisory Council that will advise the secretary of Health, Education and Welfare on matters relating to federal-state medical aid programs.

2. A panel to give the social security commissioner advice on experiments to find new methods of reimbursing hospitals and physicians for health care under medicare and other federal health programs.

Health, Education and Welfare spokesmen said the new center will work with universities, industry, hospitals, practitioners and research institutions to seek new ways of delivering health care, was authorized by Congress last year at the Johnson administration's request.

"The ultimate goal of the center is to aid practitioners and institutions involved in health services to improve the distribution and quality of services and to make the best possible use of manpower, funds, and facilities," said Dr. Philip R. Lee, assistant HEW secretary for Health and Scientific Affairs.

The immediate goals of the center were listed as:

—More efficient utilization of health personnel, including the development of new types of health workers at the professional, technical and auxiliary levels.

—Increased productivity and better management of all elements of the medical care system to improve quality and moderate rapidly rising costs.

—Technological innovation, for immediate application, to achieve cost reduction and quality improvement.

—To survey and analyze health systems, including costs and financing and to test new concepts and systems of health care delivery.

—To recruit, train and develop personnel for health services research, including the establishment of regional, non-Federal centers for health services research and training.

—Collection and correlation of existing information on health services delivery for planning and organization design.

—Initiation of systems' studies of institutional design, construction, equipment and maintenance and support construction of cost-saving innovations.

Director of the center, which is under the newly created Health Services and Mental Health Administration, is Dr. Paul J. Sanazaro, who had directed education and medical care research for the Association of American Medical Colleges since 1962.

HEW said the advisory council would be consulted on program development and practical operational problems involved in Medicaid (Title XIX of Social Security). Such programs are in operation in 38 states, Guam, Puerto Rico and the Virgin Islands. Rashi Fein, Ph.D., a chief economist at the Brookings Institution, was named chairman of the 21-member council which includes six physicians:

John B. Farley, Pueblo, Colo.; Thomas B. Georges, Pennsylvania health and welfare official; Amos N. Johnson, Garland, N. C.; Maynard Shapiro, Chicago, president-elect of the American Academy of General Practice; George W. Slagle, Battle Creek, Mich., chairman of the American Medical Association's Council on Medical Service, and Donald Smith, public health professor at the University of Michigan.

The Social Security Administration said the reimbursement panel would review proposals for experiments submitted by institutions and individuals in the health care and health insurance fields. After such reviews, it will be asked to recommend the ones it believes to have the greatest potential.

Nathan J. Stark, a Kansas City, Mo., businessman is chairman of the 17-member group. Four members are physicians: Solomon J. Axelrod, University of Michigan; Thomas W. Georges, Jr., Pennsylvania welfare official; Donald R. Hayes, Springfield, Mass. and Pierre J. Salmon, San Mateo, Calif., county public health and welfare official.

* * *

The American Medical Association urged that Congress appropriate maximum amounts for support of medical education.

The AMA position was outlined by Dr. C. H. William Ruhe, director of the AMA's division of medical education, at a hearing of a House appropriations subcommittee.

"We recognize the present concern of the Congress and the nation for an overall reduction in federal expenditures," Dr. Ruhe said. "However, we believe that the urgent need for more physicians merits the funding, to the fullest extent possible, of legislation supporting medical education . . . .

"An urgent need exists in this country for more physicians to meet the health care needs of the American public. This need can only be met effectively by a major increase in the capacity of American medical schools to educate more physicians."

Dr. Ruhe noted that Federal aid to medical schools under the proposed Health Manpower Act of 1968 would not become available before 1970. Therefore, he said efforts must be made to secure the essential immediate increase in financial support through increased appropriations under existing law. He listed the Health Professions Educational Assistance Act, the Health Research Facilities Construction Act, the Medical Act, and the general research support authority of the National Institutes of Health.

* * *

Gov. Nelson Rockefeller of New York and two other witnesses at a Senate subcommittee hearing supported national compulsory health insurance as a solution of the problem of rising health care costs.

The other witnesses were Olcott D. Smith, chairman of Aetna Life and Casualty Company, who expressed belief that private companies could work with the government effectively on such a program, and economist Victor Fuchs.

But Wilbur J. Cohen, acting secretary of Health, Education and Welfare who favored the plan 20 years ago, said he now believes the government should move on other fronts. He said it would be difficult — a "monumental task" — at this time to achieve a workable and acceptable program of compulsory national health insurance. He did not foresee the United States following the pattern of European nations in adopting a monolithic central health system for the entire nation. He said this country is too large for a single plan but that the benefits under any various plans adopted should be relatively uniform for all Americans.

Cohen said first priority now should be given maternal and child health programs. He listed as other "must" programs the expansion of medical manpower and health facilities and the continued investment in health research.

Sen. Abraham Ribicoff (D., Conn.), chairman of the subcommittee holding hearings on health care costs, also said that the emphasis now should be on more immediate solutions. He said that his experience with the fight over medicare had convinced him that it would be a long time before Congress would accept compulsory national health insurance.

He said that the first week of the hearings "made clear that a health care system in America must include everyone — public and private organizations, insurance companies, the Blues, the voluntary hospitals, nursing homes, medical societies, individual private practitioners, those who practice medicine in groups, and state, local and federal agencies."

* * *

Manufacturers of oral contraceptives are being asked by the Food and Drug Administration to revise uniform labeling for the products to reflect findings from research in Great Britain that there is an association between the use of oral contraceptives and thromboembolic diseases.

Dr. Herbert L. Ley, Jr., director of the FDA's Bureau of Medicine, notified the manufacturers of the publication of the British reports in the April 27 issue of the British Medical Journal. He called the companies to a Washington meeting for discussion of "prompt revision of uniform labeling."

Proposed labeling changes, based on preliminary results and unofficial reports of the British findings, had been submitted to U. S. manufacturers by the FDA last month.

The proposed new FDA labeling would reflect the findings of the British studies and would be aimed at prescribing physicians, an FDA spokesman said.

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

PHOSPHORUS

Phosphorus in its inorganic form is found mainly in the body in combination with calcium in the bone. There are only small amounts in cells and extracellular fluids. Large amounts of phosphorus in organic form are found intracellularly. This is present in three types of compounds, the phospholipids, the purine, glucose and creatine phosphates and the nucleoproteins. The determination of interest and value to the physician is that of the inorganic fraction of serum phosphorus.

Phosphorus is ingested in both organic and inorganic forms and is absorbed from the small intestine. In general its absorption is controlled by the same factors which are involved in calcium absorption. In the average diet almost twice the amount of phosphorus, as compared to calcium, is ingested and as is true for calcium, in healthy individuals absorption and excretion tend to balance each other. Approximately 60% of the excreted phosphorus is found in the urine.

Almost all of the phosphorus in the serum is in the inorganic form and here it serves as one of the buffer systems of the blood. Phosphate is deposited in the matrix of bone as an insoluble calcium salt; this phosphate is in dynamic equilibrium with extracellular fluid and as occurs with calcium, a continual exchange takes place. A number of factors influence the serum level. (1) **Vitamin D.** This vitamin increases the absorption of calcium and to a lesser degree that of phosphorus and increases the renal excretion of phosphorus. (2) **Parathyroid hormone.** This hormone increases urinary excretion of phosphorus and mobilizes it and calcium from bone. (3) **Growth hormone.** This hormone tends to raise serum levels. (4) **Renal disease,** if severe, causes phosphate retention with resulting higher levels. (5) **The level of calcium.** Ionized calcium affects phosphorus levels, since the concentration of calcium and phosphate ions vary in a reciprocal fashion.

NORMAL VALUES. Normal adults have a serum inorganic phosphorus content of between 3.0 and 4.5 mg. per 100 ml. This value is higher in children, probably because of growth hormone, and may reach 6.5 mg. per 100 ml. Recent carbohydrate ingestion will cause a temporary drop in values.

INCREASED VALUES. (1) The serum level of inorganic phosphorus is increased in individuals who have advanced **renal insufficiency.** This is a late occurrence and is caused by a decrease in phosphate clearance. (2) **Vitamin D.** Intoxication by or overdosage of vitamin D can cause increased values by increasing absorption and mobilizing of both calcium and phosphorus from bone. (3) **Hypoparathyroidism.** This condition always causes an elevation of serum values and they may reach 6.0 mg. per 100 ml. or higher. (4) **Acromegaly** patients will usually have values of 5.0 mg. per 100 ml. or above. (5) **Metastatic malignancy** to bone can cause elevated levels if the lesion is osteoclastic.

DECREASED VALUES. Aside from the transitory lower levels following carbohydrate ingestion, the following disease entities cause serum levels to fall. (1) **Hyperparathyroidism.** The decrease in serum inorganic phosphorus level is the most characteristic aspect of this disease and of more significance than the accompanying rise in calcium values. (2) **Vitamin D deficiencies.** In rickets, steatorrhea, and osteomalacia low phosphorus values are found more consistently than are low calcium values. (3) **In renal tubular abnormalities,** including the Fanconi syndrome where renal tubular reabsorption of many components including phosphorus is interfered with, excessive urinary excretion causes a fall in serum inorganic phosphorus values.

Some of the more common conditions in which serum calcium, inorganic phosphorus, alkaline phosphatase and urinary calcium values are altered are listed below.

	Serum			Urine
Disease	Calcium	Phos-phorus	Alkaline Phos-phatase	Calcium
Hypovitaminosis D, Rickets	N or —	—	+	—
Hypervitaminosis D.	+	N or +	N	+
Hypoparathyroidism	—	+	— or N	—
Hyperparathyroidism	+	—	N or +	+
Paget's disease	N	N	+	N or +
Metastatic carcinoma bone	N or +	N or +	N or +	+
Multiple myeloma	+	N or —	N	N
Cushing's disease	N or —	N or —	+	+
Fibrous dysplasia	N	N	+	+
Solitary bone cyst	N	N	N	N

N Normal + Increased — Decreased

(Continued on Page 71)

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — July, 1948

RADIOACTIVE COBALT

I. Discovery of Radioactive Cobalt
On April 21, 1948, David E. Lilienthal, Chairman of the U. S. Atomic Energy Commission, announced the discovery and production of inexpensive radioactive cobalt which might eventually become a substitute for radium in the treatment of cancer. This announcement will prompt numerous queries from the lay and professional public as to the availability of radioactive cobalt, the therapeutic efficiency, the cost, etc. For this reason it seems advisable to place emphasis on certain important points of information based on the Lilienthal Report and urge a conservative attitude in replying to these questions.

II. AVAILABILITY

A. Radioactive cobalt is being prepared in the atomic pile at Oak Ridge, Tennessee, and at the present time, is available to four research institutions, namely Ohio State University Hospital, Columbus; University of California Hospital, San Francisco; Washington University Hospital, St. Louis; and Memorial Hospital, New York.

B. The current price is $33.00 per gram, but is subject to considerable change. The half life of radioactive cobalt is said to be 5.3 years and the penetrating power is believed to be greater than that of radium. It is not presently available for clinical use, except as above noted.

* * *

A number of South Dakota doctors attended the Annual Meeting of the American Medical Association in Chicago last month. Among those were Drs. Brown and Mayer, Association Officers, and Billion Sr. and Jr. and Shreves, Sioux Falls; Skogmo, Mitchell; and Steele, Deadwood. There were others.

* * *

Dr. James Carroll has opened an office at Tyndall.

* * *

Dr. Robert Quinn, formerly of Sioux Falls and Yankton, is taking his residency in Obstetrics at the Lutheran Deaconess Hospital in Chicago.

* * *

N. J. NESSA, M.D.

Dr. N. J. Nessa, 68, one of the founders of the Sioux Falls Clinic 1919, died at a Rochester, Minnesota Hospital July 1st. He had gone to the Mayo Clinic earlier in the week for a periodic checkup and treatment.

* * *

DR. G. STEVENS, SIOUX FALLS — RETIRES

A 39-year career in internal medicine was brought to a close in Sioux Falls when Dr. George A. Stevens closed his office in the Sioux Falls Clinic July 1st.

* * *

Excerpts from "Proposed School for Crippled Children"

by Lisle Reese, Sioux Falls, S. D.

A newly-formed philanthropic organization has undertaken the project of building a special school in South Dakota for physically handicapped children. It is incorporated under the title of Crippled Children's Hospital and School of Sioux Falls, having as its board of directors several persons active in the state Easter Seal and child welfare affairs.

The function of the school will be two-fold: (1) to provide academic and vocational training for those who are teachable but unable to attend regular schools, and (2) provide physical care while in attendance. Thus, in addition to an education, the children simultaneously will receive the benefits, as needed, of physical and occupational therapy, corrective gymnastic exercises, and speech correction training.

The immediate problems are fact-finding and fund-raising. Studies into the unmet needs, the requirements, and the costs are going forward. The project is being developed in conjunction and cooperation with the South Dakota Society for Crippled Children, which is affiliated with the National Society for Crippled Children and Adults.

* * *

Excerpts from "Councillor's Report to Sioux Falls District"

1. The Council extends to the Sioux Falls district Medical Society, its thanks and appreciation for an, all-in-all successful and enjoyable session. The quarters were adequate, an event to be remembered. It was stated by several visitors that the entertainment was such as one could wish for, but too seldom received.
3. The South Dakota Medical Journal has been well received by various sources, notably the AMA, the Advertisers, and other individual physicians, societies with whom we exchange, and the membership. While this year's report showed a deficit, it is obvious that in a very short time, expected to be before the next annual meeting, it will show a profit and assist in carrying some of the expenses of the State Secretary and his office. All agreed that the Journal was an improvement over the Lancet.
4. The Newly elected Vice President of the State Association was reelected Chairman of the Council. He wished to resign, but was over-ruled, and unanimously elected. That is, as you know, Dr. C. E. Robbins of Pierre.

L. J. Pankow, M.D., Councillor

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Contraindications: Infections caused by nonsusceptible organisms; history of penicillin sensitivity.
Warnings: Acute anaphylaxis (may prove fatal unless promptly controlled) is rare but more frequent in patients with previous penicillin sensitivity, bronchial asthma or other allergies. Resuscitative (epinephrine, aminophylline, pressor amines) and supportive (antihistamines, methylprednisolone sodium succinate) drugs should be readily available. Other rare hypersensitivity reactions include nephropathy, hemolytic anemia, leucopenia and thrombocytopenia. In suspected hypersensitivity, evaluation of renal and hematopoietic systems is recommended.
Precautions: In suspected staphylococcal infections, perform proper laboratory studies including sensitivity tests. If overgrowth of nonsusceptible organisms occurs (constant observation is essential), discontinue penicillin and take appropriate measures. Whenever allergic reactions occur, withdraw penicillin unless condition being treated is considered life threatening and amenable only to penicillin. Penicillin may delay or prevent appearance of primary syphilitic lesions. Gonorrhea patients suspected of concurrent syphilis should be tested serologically for at least 3 months. When lesions of primary syphilis are suspected, dark-field examination should precede use of penicillin. Treat beta-hemolytic streptococcal infections with full therapeutic dosage for at least 10 days to prevent rheumatic fever or glomerulonephritis. In staphylococcal infections, perform surgery as indicated.
Adverse Reactions: (Penicillin has significant index of sensitization): Skin rashes, ranging from maculopapular eruptions to exfoliative dermatitis; urticaria; serum sickness-like reactions, including chills, fever, edema, arthralgia and prostration. Severe and often fatal anaphylaxis has been reported (see "Warnings").
Composition: Tablets—125 mg. (200,000 units), 250 mg. (400,000 units), 500 mg. (800,000 units); Liquid—125 mg. (200,000 units) and 250 mg. (400,000 units) per 5 cc.

Wyeth Laboratories Philadelphia, Pa.

ORAL PEN•VEE® K

(potassium phenoxymethyl penicillin) Wyeth

SOUTH DAKOTA STATE MEDICAL ASSOCIATION*
PLACEMENT LIST

LARGE TOWN PRACTICE
5,000 and More

ABERDEEN
Aberdeen Medical Center wants a Pediatrician, Ob-Gyn man, Internist and GP. Contact John Rathbun, Business Manager.

BROOKINGS
Brookings Clinic wants GP interested in Internal Medicine; also Internist. Excellent opportunity. Contact Duane Buholz, Business Manager.

BROOKINGS
Watson Clinic wants General Practitioner or Internist. Also surgeon who would like to do obstetrics and some GP. Excellent opportunity. Contact E. S. Watson, M.D.

HURON
Huron Clinic wants Ob-Gyn man, Pediatrician, GP and Internist with a sub-specialty. Contact H. L. Saylor, Jr., M.D.

MADISON
Madison Clinic wants young GP. Contact Francis E. Sly, Business Manager.

MITCHELL
O. J. Mabee, M.D. wants ENT man.

MITCHELL
Drs. Tobin and Tobin and Weatherill (Tobin Clinic) want man doing Internal Medicine and/or general practice to join their small group. Good opportunity.

MITCHELL
J. H. Lloyd, M.D. wants one or two men to take over his practice. Reasonable price for equipment. Would like to retire. General and surgical practice. Two hospitals.

RAPID CITY
Rapid City Medical Center has openings for an Ophthalmologist and two Internists. Must be Board Eligible or Certified. Contact Jim Gormley, Business Manager.

SIOUX FALLS
Dr. E. W. Sanderson would like an associate in the practice of Internal Medicine.

WATERTOWN
Specialty — internal medicine six man clinic group. Brown Clinic. Needs Internist with 1-4 years training. Excellent opportunity in growing city of 15,000. Also need OB-Gyn man and GP.

WATERTOWN
Bartron Clinic wants an Internist. Contact Clinic Manager.

———

*711 NORTH LAKE AVENUE
SIOUX FALLS, SOUTH DAKOTA 57104

WATERTOWN
Drs. Nelson and Brakss want an Internist. Contact P. S. Nelson, M.D., Medical Arts Clinic, 600 - 4th Street, N.E., Watertown.

YANKTON
Yankton Clinic has an immediate opening for a GP and an Internist. Also looking for Ob-Gyn man. Contact Clinic Manager.

RAPID CITY
Desires a general practitioner to join clinic group. Complete lab and x-ray department with attached pharmacy. Contact Richard C. Finley, M.D., Medical Arts Building, 717 St. Francis Street, Rapid City.

YANKTON
Board certified or Board eligible surgeon wanted to join an eight man clinic group. New clinic building. 200 bed hospital. Ample recreational facilities. Contact Clark F. Johnson, M.D., Medical Clinic, Yankton, South Dakota 57078.

WATERTOWN
Board certified internist for association in an established practice. Contact Harry Bartron, M.D., 1039 4th Street, N.E., Watertown, South Dakota.

MITCHELL
General Practice associate. Population 15,000. Opportunity to join well established practice with all facilities, including lab, x-ray and out patient minor surgery. Early partnership if satisfactory. Must be able to handle OB and limited general surgery. Two excellent 100 bed hospitals. Contact F. D. Gillis, M.D., 304 North Main, Mitchell, South Dakota 57301.

MIDDLE SIZE TOWN PRACTICE
Population 1,000 to 5,000

DEADWOOD
Good location for an EENT man or GP. Black Hills location. Contact the Administrator, St. Joseph's Hospital.

EAGLE BUTTE
Needs GP. Population 2,000. School enrollment 1,150. Northcentral part of state (90 miles northwest of Pierre. 25 miles to best fishing spot on Oahe.) Building available. Contact Chairman, Eagle Butte Community Hospital Board.

ELK POINT
Population 1,373. Need GP. Contact Melvin Burrell, Elk Point Commercial Club. Office space available. Southeast section of State.

FAULKTON
Needs GP. Population 1,100. Hospital facilities are being expanded. Two doctors at present. Northcentral South Dakota. Heart of Oahe unit. Contact Fred H. Holscher.

FT. MEADE
V.A. Hospital wants GP and Psychiatrist. 420 bed hospital, primarily psychiatric. Salary plus benefits. Contact George H. Ballard, Personnel Division.

GETTYSBURG
Population 2,200. Doctor recently left. Good hospital and nursing home facilities. Need GP who will do some surgery. Contact A. A. Buechler, D.D.S., Gettysburg.

GROTON
Northeastern part of State. Clinic building and living quarters available. 20 miles to Aberdeen. Contact Robert A. Johnson, Box 375, Groton, South Dakota.

LEMMON
C. A. Johnson, M.D. wants an associate or colleague. New hospital serving large ranch area.

PHILIP
G. Mangulis, M.D. wants GP to join his practice. Population 1,114.

REDFIELD
Full time staff physician needed at Redfield State Hospital and School, an institute providing for the needs of over 1,100 mentally retarded residents. Salary open depending upon qualifications. Write Superintendent, Box 410, Redfield, South Dakota.

TYNDALL
Tyndall Clinic needs a GP. Good hospital. Population 1,200. Contact R. J. Foley, M.D., Tyndall Clinic, Tyndall, South Dakota.

WESSINGTON SPRINGS
Dr. Roscoe Dean wants man to join his practice. Desires physician who will do general surgery or general practitioner.

WESSINGTON SPRINGS
Desire general practitioner. New nursing home. Hospital operated by Lutheran Homes and Hospitals of Fargo, North Dakota. Large trade area. Contact Harvey Christensen, Chairman, Doctor Procurement Committee for information on opportunity.

WINNER
R. L. Stiehl, M.D. wants GP to join his practice.

WINNER
Marion R. Cosand, M.D., wants surgeon to join his practice. Population 3,705.

CANTON
T. A. Angelos, M.D. wants GP Associate. Population 2,500.

IPSWICH
Population 1200. County population 6000. New 19 bed hospital. Recently remodeled office space available. One doctor now serving the community and he wishes to reduce his practice. Contact Mr. Earle Crissman, The Crissman Drug Store, Ipswich, South Dakota.

SMALL TOWN RURAL PRACTICE
1,000 Population or Less

AVON
Population 700. Southeast part of State. Contact W. T. Holleman.

BOWDLE
Population 800. 20 bed hospital and 40 bed nursing home. Large trade area. Physician left for residency. Contact Administrator, Bowdle Hospital.

DUPREE
Good location. Northwest section of State. Contact Fred Menzel.

HAYTI
County seat. Good trade territory. Building for office space available. Contact Al Heggelund or James Guffey.

HURLEY
Southeastern part of State. Good territory. Contact Mr. Carl Hansen. New clinic building available.

LAKE NORDEN
Needs physician badly. Only doctor left recently. Contact LuVerne Anderson, Lake Norden.

MONTROSE
30 miles from Sioux Falls. Building available. Good school. Good trading area. No doctor at present. Contact Wm. L. Truex, Montrose.

PLANKINTON
25 miles from Mitchell. Housing and office space available. Area population 5,000. Contact James R. Schmidt.

SELBY
Northcentral South Dakota area. Excellent fishing and hunting. Clinic building available. 997 population. Contact Mr. Bruce Clement, Secretary, Selby Commercial Club.

SUMMIT
Population 500. Good trade territory. Contact M. G. Slaathaug.

WALL
Opportunity for GP in western South Dakota. 54 miles from Rapid City. Contact Ted Hustead, Wall Drug.

WILMOT
Population 600. Contact L. H. McKenna.

WOONSOCKET
Population 1100. County population 5500. Modern $50,000 brick clinic building, fully equipped including x-ray machine. Modern 52 bed nursing home, 20 unit retirement home and a 52 bed nursing home 14 miles from town. No doctor at the present time. Contact Joe Hansowitz, Woonsocket, South Dakota 57285.

ONIDA
Population 850. Desires general practitioner. Hospital in community. Located in the central part of the state. Contact Mr. Francis M. Ryan, States Attorney, Onida.

SPECIALTIES WANTED

EENT
See Deadwood

INTERNAL MEDICINE
See Aberdeen
See Brookings
See Huron
See Mitchell
See Rapid City
See Sioux Falls
See Watertown
See Yankton

OPHTHALMOLOGY
See Rapid City

PEDIATRICS
See Aberdeen
See Huron

OB-GYN
See Aberdeen
See Huron
See Watertown
See Yankton

PSYCHIATRIST
See Ft. Meade

SURGERY
See Brookings
See Mitchell
See Wessington Springs
See Winner

Medicine • Legal — M.D. — Ethics •

CORRECTION

The April, 1968 issue of the Journal carried a statement on the relationship of physicians and optometrists — The AMA Judicial Council Opinion has been changed and the following should clarify the situation:

AMA Judicial Council Opinions

1. Question: May optometrists be employed as ancillary personnel to assist ophthalmologists?

   Answer: It is not unethical for an ophthalmologist to employ an optometrist as ancillary personnel to assist him, provided the optometrist is identified to patients as an optometrist and not as a doctor of medicine. The ophthalmologist has an ethical responsibility to take affirmative measures to make sure that patients will not be given the impression that the optometrist is also a doctor of medicine.

   ANNOUNCED AMA NEWS DECEMBER 26, 1966

2. Question: May a physician teach in a school of optometry?

   Answer: Since optometry is not a cult, physicians may, in accord with the provisions of Resolution 107 adopted in June 1966, by the House of Delegates, teach in recognized schools of optometry for the purpose of improving the quality of optometric education. The scope of this teaching may embrace subjects within the legitimate scope of optometry which are designed to prepare students to engage in optometry within the limits prescribed by law.

   ANNOUNCED AMA NEWS DECEMBER 26, 1966

3. Question: Is it ethical for a doctor of medicine to refer his patient to a qualified optometrist solely for optometric care?

   Answer: It is the opinion of the judicial council that a doctor of medicine may refer his patient to a qualified and ethical optometrist solely for optometric care.

   ADOPTED NOVEMBER 25, 1967 and REPORTED IN THE AMA NEWS JANUARY 29, 1968

HOSPITAL NOT LIABLE FOR PATIENT'S DEATH FOLLOWING FALL FROM BED

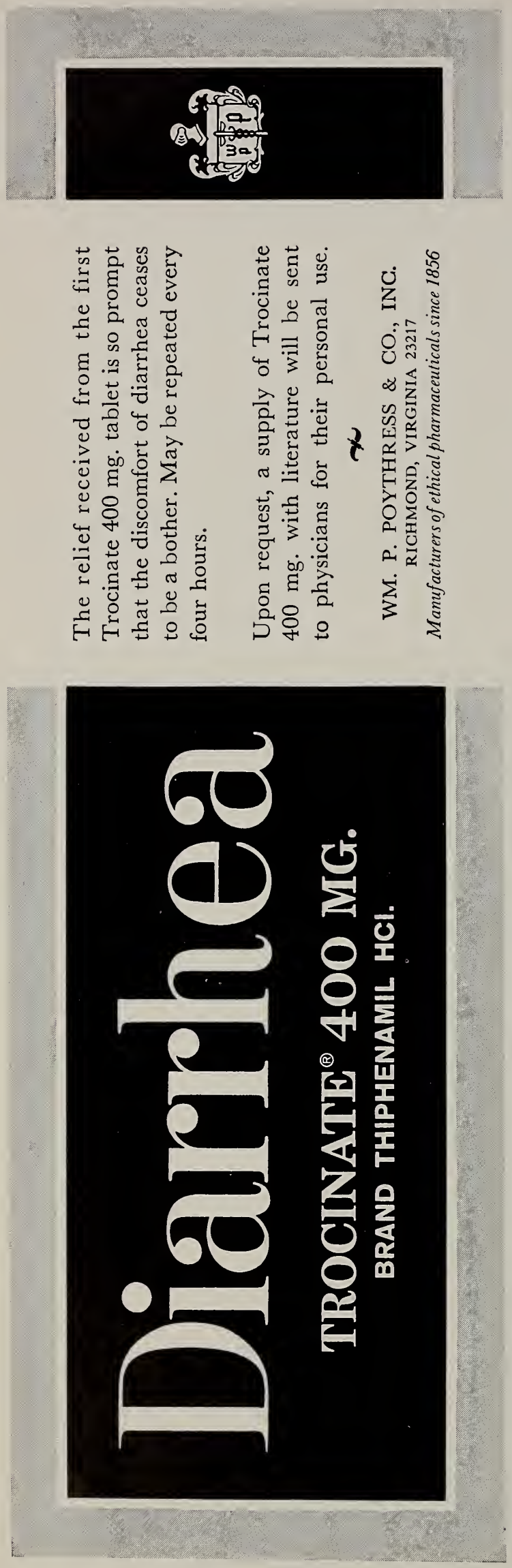
In a suit for damages against a hospital for the death of a patient following her fall from her bed, which was not equipped with siderails, a verdict in favor of the hospital was directed by an Illinois trial court. She had a heart attack when she fell and died ten minutes later. The hospital presented evidence that the patient had suffered from a heart condition for many years.

* * *

ALCOHOLISM HELD DISEASE, NOT CRIME

Since chronic alcoholism is a disease, it is a defense to criminal charges arising out of alcoholic behavior, a Georgia court ruled. The accused, convicted in an Atlanta municipal court of public intoxication and loitering, appealed on the ground that he was a chronic alcoholic. Ordering acquittal on both charges, the court said that his "only offense is the succumbing publicly to a disease known by the medical profession as alcoholism."

Conduct cannot be criminal unless it is voluntary, the court pointed out, and acts growing out of the disease of alcoholism cannot be considered voluntary. Since the accused was unable to control when and where he would drink, he could not be held guilty of public intoxication; and since the "loitering" grew directly from the chronic alcoholic state in which he existed at the time of his arrest, he could not be convicted on that charge. The court stressed,



however, that acts of an alcoholic not arising compulsively out of his disease are voluntary and are not excusable on the basis of alcoholism.

* * *

ILLINOIS ENACTS FLUORIDATION LAW

A statute requiring fluoridation of all public water supplies was recently enacted in Illinois. The law requires the addition of fluoride to water supplies so as to maintain a fluoride content of no less than 0.9 milligram per liter or more than 1.2 milligrams per liter. (Illinois, S.H.A. Chapter 111, Section 121g1).

* * *

ABORTION LAWS ENACTED

California, Colorado, and North Carolina have all enacted statutes this year liberalizing their abortion laws. The statutes in Colorado and North Carolina are substantially similar. They permit abortions when necessary to save the life of the mother or prevent grave impairment of her health, or when the pregnancy resulted from rape or incest, or when there is substantial risk that the child will be born with serious physical or mental defect. The California statute omits the provision permitting abortion when the child is likely to be born deformed. The North Carolina statute requires that the patient have four months' residency in the state, except in emergencies threatening the woman's life. Neither the California nor the Colorado laws contain residency requirements.

* * *

FEDERAL COURT CAN TRY SUIT AGAINST PHYSICIANS AND VA HOSPITAL

A federal trial court in Florida ruled that it had jurisdiction over a patient's malpractice suit against two physicians and a VA Hospital, even though there was no diversity of citizenship between the patient and the physicians.

The suit was filed in a state court. It was removed to the federal court upon the certification of the U. S. Attorney that one of the physicians had been acting within the scope of his employment at the time of the incident on which the suit was based. The patient sought a remand to the state court as to the physicians on the ground that there was no diversity of citizenship between her and them.

The removal statute provides that when a separate and independent cause of action, which would be removable if sued on alone, is joined with one or more non-removable causes of action, the entire case may be removed and the district court may determine all issues therein, or in its discretion, may remand all matters not otherwise within its original jurisdiction. The

ends of justice would more properly be served by its retention of jurisdiction over the entire matter and determining all of the issues at one trial, the court said.

PHOSPHORUS—

(Continued from Page 63)

USE OF TEST. In general the test should be ordered for the same reasons that a serum calcium is obtained. Serum calcium, inorganic phosphorus, alkaline phosphatase and serum protein determinations can aid in the diagnosis of many bone diseases, in ruling out hyperparathyroidism in patients with renal calculi and in differentiating convulsions caused by hypoparathyroidism or vitamin D deficiency from those of epilepsy or hypoglycemia.

Material for the tests: Serum 10 ml.

NOTE: When inorganic phosphorus determinations are to be done serum must be separated from the clot as soon as possible.

REFERENCE

1. Miller: **A Textbook of Clinical Pathology,** 6th Edition, 1960 P. 281.

ECONOMICS—

(Continued from Page 54)

drawal of qualified applicants results in a number of unfilled positions being available in our entering medical class. A just sufficient number of non-resident applicants is accepted to fill these vacant positions. Possibly, if the admission standards were lowered, more South Dakota residents could qualify for acceptance. But, our graduates must transfer to other medical schools to complete their medical education. At present, our admission standards are comparable to those of other medical schools and our students are accepted by schools offering a full four year medical course. This would not be the case if we were to lower our admission or scholastic standards.

Wholesale prescription drug prices have declined 14 percent during the past seventeen years while the wholesale prices of all commodities measured by the U. S. Bureau of Labor Statistics have risen 31 percent.

* * * * *

While medical costs as a whole are rising, prescription drug price levels are declining and taking less of the consumer's health care dollar than ever before, according to the Pharmaceutical Manufacturers Association.

Prescription drug industry expenditures for research and development during the past 10 years average $7 million per successful new single drug entity, according to the Pharmaceutical Manufacturers Association.

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.

TUBERCULIN, TINE TEST (Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

Lederle

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EXPLORATORY THORACOTOMY?

E. H. Heinrichs, M.D.

The question mark in the title appears inappropriate — or does it? The exploratory thoracotomy as an operation with its own indications has found far less acceptance than the exploratory laparotomy for example. The reasons for this are not entirely clear.

If one encounters hilar lymph-node enlargements beyond the usual degree, one has to consider the whole spectrum of differential diagnostic possibilities. They are without any claim to be complete:[1]

1. Chronic infections as tuberculosis, Mb. Besnier — Boeck — Schaumann.
2. Pneumonic lymph-node enlargements due to lobar pneumonia, Mb. Bang, Q-fever, atypical viral pneumonia, syphilitic pneumonia, ornithosis, tularemia, acquired toxoplasmosis, cholesterine pneumonia.
3. Fungus infections as actinomycosis, streptotrichosis, histoplasmosis, moniliasis, blastomycosis, coccidiomyosis, asperigilliosis.
4. Chemical reactions as siderosis, berylliosis, silicosis, anthraco-sidero-silicosis, talcosis.
5. Other reactions as oil aspirations, diffuse progressive inter-stitial fibrosis of the lung, neurofibroma, cystic hygroma, cysts (dermoid, teratoma) of mediastinal, hilar and pericardial origin, lipoma, fibroma, chordoma, eosinophilic granuloma.
6. Malignancies as carcinoma and cylindroma.
7. And most of all, lymphogranulomatoses of the malignant type which are classified as:

   A. Single cell types
      1. lymphosarcoma
      2. lymphoblastoma
      3. reticulum cell sarcoma
      4. clasmatocytoma (monocytoma)

   B. Non-single cell type
      1. Hodgkins disease
      2. Giant follicular lymphoma

   C. Secondary lesions (metastases)

Many of these possibilities can usually be discarded from the very beginning because of the patient's history, lack of necessary accompanying symptoms and signs and skin testing and other laboratory tests. If one suspects an infectious lymph-node enlargement, a trial period with an appropriate antibiotic should be considered in order to observe a possible decrease in size. But with all those diagnostic and therapeutic efforts there remains in certain lesions sufficient doubt as to their etiology. If one suspects a lymphogranulomatosis of the malignant type there is no other way to diagnose these than by biopsy unless one chooses to wait until metastases provide one with a more accessible site for a biopsy. However, biopsies of other than those lymph-nodes apparently involved will not have diagnostic results in most cases since malignant lymphomas appear to have a truly local site at the onset.[2]

Radiologically "it is impossible to determine the exact limitation of the size and shape of the hilar shadows at all ages; the line of demarcation between normal and pathological enlargement is not sharp."[3]

In children where non-infectious hilar enlargements are less common than in adults, one should not be less aggressive with diagnostic and therapeutic measures than in the adult patient. About carcinoma of the lungs (in children) it has been stated that "about half of the patients presented symptoms due to metastases or non-specific evidence of malignancy, and half (of these) had symptoms referable to the lungs."[4] Paucity of symptoms should never be used to discard the possibility of malignancy. "Malignant tumors of the lung occurring in infants are sometimes slow in growing and are characteristically bland in their initial symptomatology."[4]

In any of the malignant lymphomas "the diagnosis is based on characteristic histological alterations in an involved lymph node. Since characteristic changes are often not present, even in involved lymph nodes, several nodes suspected of being involved should be obtained for study."[5]

"Exploratory thoracotomy with biopsy or excision of the tumor has proved to be the most satisfactory means of establishing diagnosis."[6] And what is true for mediastinal lesions is equally true for hilar lymph nodes enlargements.

"In good hands, the risk of an exploratory thoracotomy has decreased to the point where it is frequently not wise to adopt a wait and see attitude in managing certain indeterminate intrathoracic lesions."[7] The chest in experienced hands is not any more the "terra incognita" it used to be even a decade ago. The situation is now the same as compared to the abdominal cavity where a lesion, which defies other diagnostic means should be biopsied.

The fact that we will encounter an increased number of benign lymph node enlargements if we become more aggressive in our diagnostic attitude should not deter us from the advocating of the exploratory thoracotomy. The indications for this operation are independent from the final results of the biopsy. An "intrathoracic lymphnode enlargement is occasionally encountered in asymptomatic individuals as a transient benign condition, completely unassociated with either a preceding illness or evidence of involvement of other viscera."[8]

Only with the help of an exploratory thoracotomy "her physician knows for sure."[9]

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2. T. Han, L. Stutzman; Presentation at the 58th Annual Meeting of the American Association for Cancer Research, Chicago, 1967.
3. J. Caffey; Pediatric X-ray Diagnosis; 4th Edition; Yearbook Medical Publishers; Chicago, 1961; Page 256.
4. C. D. Benson et al. Pediatric Surgery; Volume I, 1st Edition; Yearbook Medical Publishers; Chicago, 1962; Page 401-402.
5. N. J. Smith, V. C. Vaughan III in Nelson's Textbook of Pediatrics; W. B. Saunders; Philadelphia/London, 1964; Page 1077.
6. A. McGehee Harvey in Cecil - Loeb's Textbook of Medicine, Volume I, W. B. Saunders Company; Philadelphia/London, 1963; Page 610.
7. H. J. Roberts; Difficult Diagnosis; 4th Edition; W. B. Saunders, Philadelphia/London, 1961; Page 334.
8. A. D. Chaves, H. Abeles; Transient Benign Intrathoracic Adenopathy in Apparent Healthy Persons. Am. Rev. Tuberc., Volume 27, 1953, Page 45.
9. From a popular advertisement (adapted).

WE HOPE THIS IS NOT NEEDED

- - - but your patient will find new freedom from the extra comfort and smooth, easy operation of this marvelous Everest & Jennings wheelchair. Elmen Rent All offers you just about everything to help patients get well faster. The first month's rent applies to the purchase price. We hope your patients never need such things, but if they do, we're at your service 24 hours a day.

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This is your

MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

Good advice may well come from those who did not follow it.

Dakota Wesleyan University at its annual Alumni Day Banquet, honored **Dr. Parry Nelson,** Watertown, for his distinguished service to the college.

* * *

B. F. King, M.D., Aberdeen, was elected President of the South Dakota Blue Shield Board of Directors. **T. H. Sattler, M.D.,** Yankton, was elected Vice-President.

* * *

Dr. Richard Porter of Yankton has just returned from an eleven month tour in Vietnam. Dr. Porter served with the 101st Airborne as a medical Captain.

J. T. Elston, M.D., Rapid City, was the guest speaker at a meeting of the Black Hills Society of Medical Technologists.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

H. Russell Brown, M.D., Watertown, has been listed in the 1968-69 edition of Who's Who In America.

* * *

The Codington County Heart Council has selected **E. H. Heinrichs, M.D.,** Watertown, as its Chairman for 1968-1969.

* * *

Those physicians re-elected to the American Academy of General Practice are: **G. R. Bell, M.D.,** DeSmet, **E. J. Batt, M.D.,** Sisseton, **J. J. Stransky, M.D.,** Watertown, **H. R. Wold, M.D.,** Madison, **D. J. Buchanan, M.D.,** Huron, **Robert G. Olson, M.D.,** Sioux Falls, **E. H. Peters, M.D.,** Sioux Falls, **V. V. Volin, M.D.,** Sioux Falls, **B. C. Lushbough, M.D.,** Brookings, **E. S. Watson, M.D.,** Brookings, **L. W. Holland, M.D.,** Chamberlain, and **D. L. Scheller, M.D.,** Arlington, South Dakota.

F. C. Totten, M.D., a veteran physician in the Lemmon area has announced he is closing his office and is retiring.

* * *

F. J. Abts, M.D., Yankton, was the guest speaker at the Yankton Antique Auto Association's annual awards banquet.

* * *

Dr. John S. Tschetter was honored by the Huron District Medical Society for his fifty years of service to the community.

* * *

Dr. A. Heupel, Watertown, addressed the District 11 L.P.N.'s at their regularly scheduled meeting.

William R. Taylor, M.D., and **Noel deDianous, M.D.,** Aberdeen, were guest speakers at the annual convention of the South Dakota Licensed Practical Nurses Association.

* * *

Robert E. Van Demark, M.D., Charles Ihle, Jr., M.D. both of Sioux Falls, and **W. H. Patt, M.D.** of Brookings were among South Dakota Physicians assisting in the annual Elks' Clinics.

* * *

Dr. Gerald Tracy, Watertown, has been elected president of the South Dakota Heart Association for 1968-1969.

N. R. Whitney, M.D., Rapid City, **H. W. Farrell, M.D.,** Sioux Falls, and **R. S. Hosen, M.D.,** Sioux Falls; have been named to evaluate medical aspects of Head Start Programs in South Dakota.

* * *

Sioux Valley Hospital Officers were elected for the 1968-1969 fiscal year. They include: **Dr. D. M. Frost,** Chief of Staff; **Dr. B. R. McHardy,** Secretary - Treasurer; **R. R. Giebink, M.D.,** Chief of Surgery; **R. G. Olson, M.D.,** Chief of General Practice; **Wm. O. Rossing, M.D.,** Chief of Medicine; and **B. J. Williams, M.D.,** Chief of Obstetrics.

CLARENCE V. AULD, M.D.

April 13, 1886 - May 12, 1968

A long time Plankinton physician died May 12, 1968 at the Sunshine Home in Yankton.

Dr. C. V. Auld practiced medicine in Plankinton for 56 years and had been named doctor of the year by the South Dakota State Medical Association in 1957.

Dr. Auld took his medical training at the University of Michigan and graduated in 1909. He took his internship at Minnequa Hospital in Pueblo, Colorado.

Survivors include two sons, Dr. Merritt, Yankton, Donald, Plankinton; a daughter, Dr. Marian Mach, Yankton; 11 grandchildren; 12 great grandchildren; one brother, and one sister. To them we extend our deepest sympathy.

SIXTH NATIONAL CANCER CONFERENCE

Sponsored by the American Cancer Society
and the National Cancer Institute

Denver Hilton Hotel
Denver, Colorado
September 18, 19, and 20, 1968

For further information write:

Roald N. Grant, M.D., Coordinator
Sixth National Cancer Conference
c/o American Cancer Society
219 East 42nd Street
New York, New York 10017

A study conducted for the Pharmaceutical Manufacturers Association reveals that prices on patented drug products have declined 24.8 percent since 1949, while prices for non-patented drug products have risen 1.1 percent during the same period.

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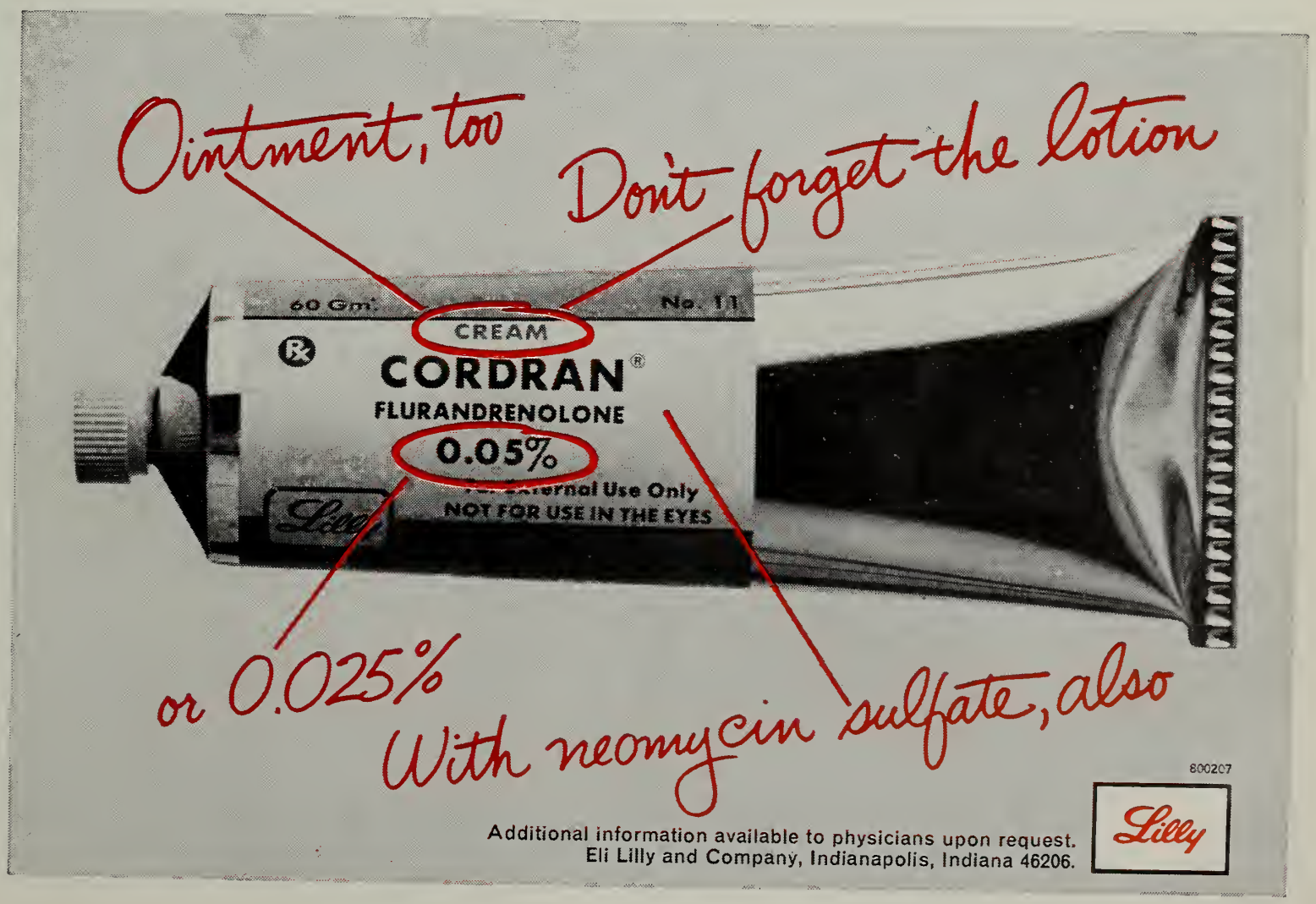

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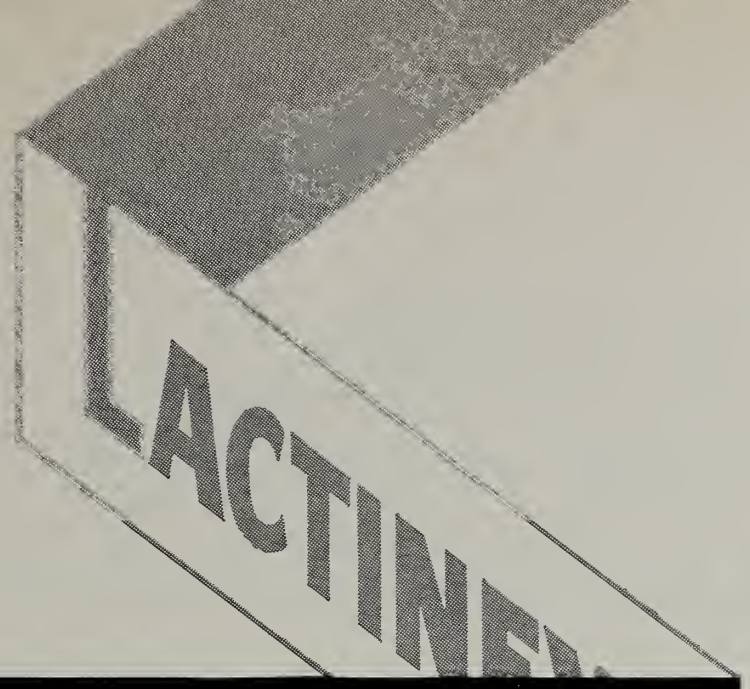

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Volume XXI **August, 1968** **Number 8**

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H. E. Lowe, M.D. (1970) ..... Mobridge

Twelfth District (Whetstone)
H. H. Brauer, M.D. (1970) ..... Sisseton

1968-1969 COMMISSIONS

COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS
J. B. Gregg, M.D., Chairman (1970) Sioux Falls
Richard G. Gere, M.D. (1970) Mitchell
Thomas Bunker, M.D. (1970) Aberdeen
Courtney Anderson, M.D. (1970) Sioux Falls
R. J. Bareis, M.D. (1969) Rapid City
Charles Tesar, M.D. (1969) Rapid City
R. W. Honke, M.D. (1969) Wagner
R. J. Foley, M.D. (1969) Tyndall
Bill Church, M.D. (1971) Sioux Falls
G. Robert Bartron, M.D. (1971) Watertown
Robert Hayes, M.D. (1971) Vermillion
Howard Wold, M.D. (1971) Madison

COMMISSION ON LIAISON WITH ALLIED ORGANIZATIONS
David Buchanan, M.D., Chairman (1970) Huron
Gerald F. Tuohy, M.D. (1970) Sioux Falls
Jack T. Berry, M.D. (1970) Mitchell
Melvin Marousek, M.D. (1970) Belle Fourche
A. J. Tieszen, M.D. (1969) Pierre
V. V. Volin, M.D. (1969) Sioux Falls
Jerry Walton, M.D. (1969) Martin
R. F. Thompson, M.D. (1969) Yankton
Dagfinn Lie, M.D. (1971) Webster
Theodore Hohm, M.D. (1971) Huron
Mary Sanders, M.D. (1971) Redfield
Barbara Spears, M.D. (1971) Pierre

COMMISSION ON INTERNAL AFFAIRS
B. J. Begley, M.D., Chairman (1969) Sioux Falls
C. Rodney Stoltz, M.D. (1970) Watertown
Richard G. Belatti, M.D. (1970) Madison
Edward A. Pasek, M.D. (1970) Sioux Falls
Edwin J. Moore, M.D. (1970) Vermillion
B. T. Lenz, M.D. (1969) Huron

George Angelos, M.D. (1969) Hot Springs
Richard Hockett, M.D. (1969) Mitchell
Saul Friefeld, M.D. (1971) Brookings
Bruce Allen, M.D. (1971) Rapid City
Charles S. Roberts, M.D. (1971) Brookings
David Seaman, M.D. (1971) Aberdeen

COMMISSION ON MEDICAL SERVICE

G. E. Tracy, M.D., Chairman (1970) Watertown
W. B. Odland, M.D. (1970) Huron
Bernard C. Gerber, M.D. (1970) Aberdeen
William R. Taylor, M.D. (1970) Aberdeen
T. H. Willcockson, M.D. (1969) Yankton
L. H. Amundson, M.D. (1969) Sioux Falls
Warren Jones, M.D. (1969) Sioux Falls
Donald Weatherill, M.D. (1969) Mitchell
Edward T. Ruud, M.D. (1971) Rapid City
Roland F. Hubner, M.D. (1971) Yankton
Judson O. Mabee, M.D. (1971) Mitchell
F. R. Williams, M.D. (1971) Rapid City

COMMISSION ON SCIENTIFIC MEDICINE

Bruce Lushbough, M.D., Chairman (1970) Brookings
H. Streeter Shining, M.D. (1970) Rapid City
James C. Larson, M.D. (1970) Watertown
H. Phil Gross, M.D. (1970) Sioux Falls
Robert Nelson, M.D. (1969) Sioux Falls
A. C. Vogele, M.D. (1969) Aberdeen
R. B. Leander, M.D. (1969) Sioux Falls
E. H. Heinrichs, M.D. (1969) Watertown
John Tidd, M.D. (1971) Yankton
David Studenberg, M.D. (1971) Gregory
Noel deDianous, M.D. (1971) Aberdeen
Karl Wegner, M.D. (1971) Sioux Falls

COMMISSION ON COMMUNICATIONS

R. R. Giebink, M.D. (1969) Chairman, Sioux Falls
R. E. Van Demark, M.D. (1970) Sioux Falls
John H. Hoskins, M.D. (1970) Sioux Falls
Duane B. Reaney, M.D. (1970) Yankton
Hubert H. Theissen, M.D. (1970) Rapid City
C. A. Johnson, M.D. (1969) Lemmon
B. F. King, M.D. (1969) Aberdeen
D. L. Scheller, M.D. (1969) Arlington
Clifford Lardinois, M.D. (1971) Huron
B. O. Lindbloom, M.D. (1971) Pierre
William O. Hanson, M.D. (1971) Huron
James D. Collins, M.D. (1971) Hoven

EXECUTIVE COMMITTEE

John T. Elston, M.D., Chairman, Rapid City
Robert H. Quinn, M.D., Sioux Falls
A. P. Reding, M.D., Marion
Gerald E. Tracy, M.D., Watertown
E. T. Lietzke, M.D., Beresford
J. A. Muggly, M.D., Madison

GRIEVANCE COMMITTEE

C. Rodney Stoltz, M.D., Chairman, Watertown
James P. Steele, M.D., Yankton
Paul Hohm, M.D., Huron
Robert H. Hayes, M.D., Vermillion
John Stransky, M.D., Watertown

UTILIZATION AND INSURANCE REVIEW COMMITTEE

H. R. Wold, M.D., Chairman, Madison
E. W. Sanderson, M.D., Sioux Falls
Harvard Lewis, M.D., Mitchell
Roscoe E. Dean, M.D., Wessington Springs
C. B. McVay, M.D., Yankton
E. S. Palmerton, M.D., Rapid City

REPORT OF THE BUDGET AND AUDIT COMMITTEE

Holiday Inn, Aberdeen, South Dakota

The Budget and Audit Committee met on May 17, 1968. Present were Dr. A. P. Reding and Dr. B. J. Begley. Also attending the meeting were Dr. Robert Quinn and Mr. Richard Erickson.

Mr. Erickson discussed the change in auditing firms which had been made this year. We are now utilizing the services of Broeker and Hendrickson, Inc.

A discussion on delinquent dues was held. Dr. Begley moved that the Committee recommend to the Council that the State Association office handle all billing for State and AMA dues, utilizing the services of a computer, and that the Districts continue to bill for their own District dues. The motion was seconded by Dr. Reding and carried.

A discussion on an increase in dues was held. No action was taken.

The Committee reviewed the audit and found it to be satisfactory. We would recommend the acceptance of the audit for the year 1967-1968.

Respectfully submitted,
A. P. Reding, M.D.
Secretary-Treasurer

FIRST COUNCIL MEETING

Aberdeen, South Dakota
May 18, 1968

The meeting was called to order by E. T. Lietzke, M.D., Chairman of the Council. Those present for roll call were Doctors: John J. Stransky, John T. Elston, R. H. Quinn, A. P. Reding, R. H. Hayes, E. J. Perry, G. Robert Bartron, J. A. Muggly, Harvard Lewis, E. T. Lietzke, Clark Johnson, C. E. Tesar, H. E. Lowe, H. H. Brauer, and B. J. Begley.

Dr. Hayes moved to dispense with the reading of the minutes of the last meeting inasmuch as they will be published in the Journal. The motion was seconded by Dr. Reding and carried.

Mrs. Butler reported on her conversation with Dr. Knabe concerning the financial support donated by the Association to the Clinical Pathology Program. Dr. Hayes moved that the South Dakota State Medical Association reduce its support of the Clinical Pathology Program to $200 annually which is to include mailings and advertising. The motion was seconded by Dr. Perry and carried.

Mr. Erickson read the report from the Harold Diers Company regarding its experience in the physicians' Disability Program for the Council's information.

A discussion was held regarding three appointments to be made by the Council to the Board of Directors of the Health Research Institute; one for a one year term, one for a two year term and one for a three year term. Dr. Perry moved that Dr. James Steele be appointed to the Board of Directors for a one year term. The motion was seconded by Dr. Stransky and carried. Dr. Lowe moved that Dr. John Gregg be appointed to the Board of Directors for a two year term. The motion was seconded by Dr. Bartron and carried. Dr. Hayes moved that Dr. G. Robert Bartron be appointed to the Board of Directors for a three year term. The motion was seconded by Dr. Muggly and carried. Dr. Stransky suggested that the Executive Office request that the Health Research Institute notify the Council when a Director's term expires so that another appointment can be made immediately.

Mr. Erickson discussed a letter received from the Commission on Mental Health and Mental Retardation requesting nominations for the appointment of one member to this Commission. Dr. Reding moved that the names of Dr. R. K. Johnson, Dr. Robert Giebink and Dr. James DeGeest be submitted as possible nominees to the Commission on Mental Health and Mental Retardation. The motion was seconded by Dr. Johnson and carried.

The Council considered a request from the Harold Diers Company for permission to use the South Dakota State Medical Association, Disability Insurance Plans, 506 City National Bank Building, Omaha, Nebraska 68102 as the return address on envelopes sent to the physicians in South Dakota from this company.

HAROLD DIERS & COMPANY
506 CITY NATIONAL BANK BUILDING
OMAHA, NEBRASKA

March 28, 1968

Mr. Richard C. Erickson
Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Mr. Erickson:

As per your conversation with Mr. Hobbs of our agency I am writing this letter to be presented to the Council. The liability that you and Mr. Hobbs talked

about was a little premature. We have to iron out some things with the Insurance Department before going any further. We will report as soon as possible as to the progress of these plans.

I would like the Council to vote on the following envelope address. We have this for all associations except the South Dakota Medical Association and would appreciate it. It does draw a physician closer to his Association and does increase participation when they receive the literature in an envelope with the name on it.

South Dakota State Medical Association
Disability Insurance Plans
506 City National Bank Building
Omaha, Nebraska 68102

I have enclosed a few of the North Dakota Medical Association's envelopes to give you an idea of how it looks.

We are at your disposal at any time. My best to the Council and thanks for the cooperation in the years past.

Sincerely yours,
Bob Diers

Dr. Tesar moved that the request from the Harold Diers Company utilizing the suggested return address on envelopes be approved and that the company be informed that all mailings contained in these envelopes should pertain only to the Disability Insurance Program approved by the State Medical Association. The motion was seconded by Dr. Muggly and carried.

Mr. Erickson read a letter from the Pharmaceutical Association requesting that the South Dakota State Medical Association reiterate its position regarding the Long Bill, S. 3323, and the Montoya Bill, S. 2936. Dr. Bartron moved that the South Dakota State Medical Association reiterate its position by opposing the principles of the Long Bill, S. 3323, and the Montoya Bill, S. 2936. The motion was seconded by Dr. Hayes and carried.

RESOLUTION FROM THE COUNCIL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
RE: S-2299

Whereas the White House directed study of drug costs currently being carried out by the Department of Health, Education and Welfare will not have assembled its factual data until its reporting date in June, 1968, and

Whereas drug prices are the only major component of the health care package showing steady decline in recent years, and

Whereas there are at least 24 different variables affecting the clinical effectiveness of any given drug prescribed, many having to do with the details of its formulation, making the concept of generic equivalence a myth, and

Whereas only the attending physician has an opportunity to continuously monitor the quality and effect of the drugs currently available as well as the individual response of each of his patients to these medications,

BE IT RESOLVED that S-2299, otherwise known as the Long Bill, should be actively opposed as a premature attempt to deal with an as yet undefined problem, as a tragic excursion into further bureaucratic regulation and supervision of indescribable complexity, as restrictive of both the rights of the prescribing physician and the patient he serves.

Action of the Pharmaceutical Association in April
Resolved that SDPhA go on record as opposed to the principles of the Long Bill, S. 3323 and the Montoya Bill, S. 2936, as to requiring that payment of drugs for government programs be limited only to generic drugs.

A discussion was held regarding the submission of two names to the State Department of Public Welfare for an appointment to the Medical Advisory Committee to the Medical Assistance Program under Title XIX.

STATE DEPARTMENT OF PUBLIC WELFARE
PIERRE, SOUTH DAKOTA

April 26, 1968

Mr. Richard C. Erickson, Executive Director
South Dakota Medical Service, Inc.
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Mr. Erickson:

Federal policy requires that a Medical Advisory Committee be formed to assist the State Agency administering the Medical Assistance Program under Title XIX. The purpose is to maintain and improve the quality of the Medical Assistance Program to the end that patients receive better care and the program operates more efficiently.

Therefore, we ask that you and your Association furnish us with names of two members, one as alternate, for appointment to this office.

Sincerely,
Matthew Furze, State Director
Paul H. Koren, M.D., Director
Division of Medical Services

Dr. Bartron moved that Dr. H. Russell Brown be recommended for appointment to this committee. The motion was seconded by Dr. Hayes and carried. Dr. Perry moved that Dr. Paul Hohm be suggested for appointment. The motion was seconded by Dr. Reding and carried.

Mr. Erickson discussed a new insurance proposal from the Union Central Life Insurance Company. He reported that a questionnaire had been sent to 325 physicians in South Dakota under the age of 55 and that to date 82 replies had been received, 43 interested in the proposal and 29 not interested. Union Central requested that a second mailing be made to these physicians in an attempt to receive 200 interested replies. Dr. Quinn moved that the Association not send a second mailing. The motion was seconded by Dr. Bartron and carried.

A letter from the Lions Sight and Service Foundation requesting that the Association pass a resolution encouraging the efforts of this organization was read.

LIONS SIGHT AND SERVICE FOUNDATION OF SOUTH DAKOTA
222 East Capitol Avenue
Pierre, South Dakota

May 14, 1968

Mr. Richard C. Erickson
Executive Secretary
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Dick:

The Lions Sight and Service Foundation of South Dakota Incorporated has spent approximately two years studying various eye bank programs and the need for such a service in South Dakota. They have come to the conclusion that since South Dakota does not have a full medical school that it would be impractical to establish an eye bank to serve this state. Despite this situation many citizens of our state continue to desire to contribute their eyes to an eye bank; therefore, the Lions Foundation have developed a cooperative relationship with the Lions Eye Bank of Omaha, Nebraska.

When the donor program is initiated, cards will be signed by contributors and filed both with the South Dakota Lions Sight and Service Foundation and the Nebraska Eye Bank. The donor will be provided with a billfold size card indicating that he has willed his eyes to the above mentioned organization.

A cooperative relationship has been developed with the South Dakota State Motor Patrol to transport donated eyes from the donor to the nearest Airline to expedite delivery in Omaha at the earliest possible time.

Enucleation kits will be provided at each hospital located in cities where Lions Clubs exist and later will be placed in each hospital throughout the state.

In order to carry out effectively a donor program of this type, we will need a full cooperation of the South Dakota Medical Association. Doctors will be requested to volunteer their services to effect this

program. We are requesting with this letter that the State Medical Association bring this to the attention of all physicians and would appreciate a resolution of encouragement to the Foundation in establishing this worthy project.

Respectfully submitted,
Howard H. Hanson, Consultant

Dr. Bartron moved that this request be referred to the Ophthalmology Society. The motion was seconded by Dr. Tesar and carried.

Dr. Perry requested information concerning procedures followed by the Vocational Rehabilitation Department in reviewing applicants. Dr. Muggly moved that the Council write a letter to the Department of Vocational Rehabilitation requesting information and that Dr. Stephen Brzica, Chairman of the Advisory Committee, and Mr. Ben Hins, Director of the Department, be invited to attend the fall Council meeting to clarify this situation. The motion was seconded by Dr. Hayes and carried.

Mr. Erickson briefly reviewed a letter received from Dr. James Cline regarding local welfare payments. No action was taken.

Dr. Reding read the minutes of the Budget and Audit Committee. Dr. Elston moved that the section regarding the collection of state and AMA dues by the Executive Office be referred to the Commission on Internal Affairs and that Mr. Erickson gather more information concerning the cost involved. The motion was seconded by Dr. Bartron and carried. Dr. Reding moved that the Budget and Audit Committee report be accepted as amended. The motion was seconded by Dr. Quinn and carried.

Dr. Perry moved that the meeting be adjourned. The motion was seconded by Dr. Lowe and carried.

SECOND COUNCIL MEETING
Aberdeen, South Dakota
May 21, 1968

The meeting was called to order by E. T. Lietzke, M.D., Chairman of the Council. Those present for roll call were Doctors: John Elston, John Stransky, Robert Quinn, J. A. Muggly, A. P. Reding, William R. Taylor, Charles Swanson, Harvard Lewis, E. T. Lietzke and Marion Cosand.

Dr. Elston moved to dispense with the reading of the minutes of the last meeting inasmuch as they will be published in the Journal. The motion was seconded by Dr. Cosand and carried.

Mr. Erickson introduced Dr. Charles Swanson as the new Councilor from the Pierre District and Dr. William Taylor as the new Councilor from the Aberdeen District.

Nominations were in order for Chairman of the Council. Dr. Quinn nominated E. T. Lietzke, M.D. The nomination was seconded by Dr. Taylor. Inasmuch as there were no more nominations Dr. Lietzke was declared Chairman of the Council.

Mr. Erickson read a letter from the South Dakota League for Nursing Health Careers Program Committee requesting a donation from the State Medical Association.

SOUTH DAKOTA LEAGUE FOR NURSING

April 30, 1968

Dear Members of the State Medical Association:

The South Dakota League for Nursing Health Careers desperately needs your help!

Our objectives in the past have been to acquaint interested students to the Health Careers by means of the enclosed brochure and by sponsoring a booth at the State Fair.

We will appreciate all donations. Please make check payable to Sister Jane Frances, St. John's McNamara Hospital, Rapid City, South Dakota 57701.

Thank you for considering this request.

Sincerely,
Sister M. Nivard
Chairman, Committee on Careers SDLN

Dr. Cosand moved that the Association donate $50.00 to the Committee on Careers of the South Dakota League for Nursing. The motion was seconded by Dr. Swanson and carried.

A discussion was held concerning a request for donations from the State of South Dakota Division of Prevention of Alcoholism and Treatment of Alcoholics.

STATE OF SOUTH DAKOTA
DIVISION OF PREVENTION OF ALCOHOLISM
AND TREATMENT OF ALCOHOLICS

April 18, 1968

Mr. Richard C. Erickson, Ex. Sec.
S. D. State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Sirs:

The Division of Prevention of Alcoholism and Treatment of Alcoholics for the State of South Dakota is a co-sponsor of the 10th Annual International School on Alcohol Studies held at the University of North Dakota, Grand Forks on July 21-26, 1968.

This school of study is designed for both lay and professional people. It has a five fold purpose as described in the enclosed folder. Persons selected by our Division as recipients attend the school under scholarships amounting to $65.00 per person, which pays for their registration, board and room. The recipient pays for his own travel to and from the school.

We invite your participation in sponsoring a person or persons to this school. You may mail a check payable to the International School of Alcohol Studies and address it to our office. We will then make a selection of a person to represent your organization, business or industry. If your agency has a particular person that you feel should attend this school, we urge you to sponsor and send them. We would like to have their names and assist in their registration.

Our Division has been in operation for a little less than a year and we have begun a state wide program for alcoholism. Education is a major portion of this program. We think the International School of Alcohol Studies has an excellent program for teaching people about alcoholism, to return to their communities and assist in the local alcoholic problems.

Any assistance you can give our Division in obtaining scholarships and suggesting qualified persons for attendance would be greatly appreciated. Thank you for your prompt consideration.

Sincerely,
Arthur M. Semones, M.D.
Chairman of the Board

AMS/avp
Enc.

Dr. Cosand moved that the State Medical Association endorse the program for the Prevention of Alcoholism and Treatment of Alcoholics but not contribute to it this year. The motion was seconded by Dr. Stransky and carried.

The Council discussed a recommendation from the South Dakota Academy of Ophthalmology and Otolaryngology that Bruce Allen, M.D., Rapid City; W. B. Odland, M.D., Huron and Thomas Bunker, M.D., Aberdeen, be recommended to the Governor for appointment to the Hearing Aid Dealers Licensing Advisory Board. Dr. Stransky moved that the three suggested names be submitted to the Governor for his consideration. The motion was seconded by Dr. Taylor and carried.

A discussion was held regarding Resolution #1 pertaining to the Heart, Cancer and Stroke Program which was accepted by the House of Delegates. Dr. Stransky moved that Dr. Elston as President of the Association appoint a Committee, either the Commission on Medical Service or an independent committee, and that this committee begin immediately to study the feasibility of separating the South Dakota Regional Medical Program from Nebraska. The motion was seconded by Dr. Quinn and carried.

The Council reviewed Resolution #2 which was accepted by the House of Delegates concerning the School of Medicine at the University of South Dakota. Dr. Reding moved that Dr. Elston as President of the Association appoint a committee to study the implementation of this resolution. The motion was seconded by Dr. Swanson and carried.

The Council considered a request from SoDaPAC regarding the appointment of its Board of Directors. Dr. Lewis moved that the Council reappoint H. R. Wold, M.D., T. J. Wrage, M.D., Bernard T. Lenz, M.D., Marion Cosand, M.D., C. A. Johnson, M.D., Mrs. Courtney Anderson, Mrs. James Hovland, Barbara Spears, M.D., A. A. Lampert, M.D., Bill Church, M.D., William Taylor, M.D. and Otto Schnaidt, D.D.S. and that James Vose, M.D. be appointed to replace P. Preston Brogdon, M.D. The motion was seconded by Dr. Reding and carried.

Mr. Erickson read the report from the South Dakota Academy of Ophthalmology and Otolaryngology regarding the eye bank program proposed by the Lions Sight and Service Foundation of South Dakota.

May 20, 1968
To The Council of the South Dakota State Medical Association:

At its annual meeting in the city of Aberdeen, South Dakota, this date, the letter from Mr. Howard Hanson of the South Dakota Service to the Blind was considered. It was the concensus of the Academy that the eye bank program as it now exists in this state is functioning well and that there does not exist the need for a change at the present moment.

The secretary of this Academy was instructed to send a diplomatic letter to Mr. Hanson with this information.

Respectfully submitted,
J. B. Gregg, M.D.
Secretary-Treasurer
South Dakota Academy of Ophthalmology and Otolaryngology

Dr. Cosand moved that the Council accept the recommendations of the South Dakota Academy of Ophthalmology and Otolaryngology. The motion was seconded by Dr. Elston and carried.

The Council discussed a resolution presented by the South Dakota Academy of Ophthalmology and Otolaryngology regarding a study in the field of speech pathology and audiology.

May 20, 1968
To The Council of the South Dakota State Medical Association:

The resolution herewith attached was passed unanimously by the Academy at its annual meeting in Aberdeen, South Dakota, this date, and the Secretary was instructed to send a copy to the South Dakota Speech and Hearing Association and to the Council of the South Dakota State Medical Association, for transmittal to the COMMISSION ON MEDICAL LEGISLATION, as per the recommendation of Dr. Robert Bartron at the last meeting of that Commission.

Respectfully submitted,
J. B. Gregg, M.D.
Secretary-Treasurer
South Dakota Academy of Ophthalmology and Otolaryngology

WHEREAS, The field of speech pathology and audiology is expanding in the State of South Dakota, and

WHEREAS, There are now in the developmental stages excellent speech and hearing programs both at State supported institutions, on community levels, and on a private practice basis, and

WHEREAS, These programs are definitely needed and serve a useful purpose, and

WHEREAS, There are now no definitely established guidelines as to the training, supervision, requirements for practice, and competence, other than voluntary guidelines, and

WHEREAS, Persons practicing in the fields of speech pathology and audiology in the State of South Dakota have no legal status, licensing, or universally accepted standards to govern them or guide their work, other than those imposed upon them by their voluntary membership in the ASHA and the South Dakota Speech and Hearing Association, and

WHEREAS, It is stated succinctly in the Code of Ethics of the American Speech and Hearing Association, Section A. 1. (Subheading A) "The member must not provide services for which he has not been properly trained, i.e., have the necessary course work and supervised practicum," and

WHEREAS, The practice of medicine is clearly outlined in the Basic Science laws of the State of South Dakota, and

WHEREAS, The diagnosis of ear disease, nose and throat pathology by physical diagnosis and x-ray and the recommendation for treatment thereof by surgical means, medications, or certain manipulations, constitute the practice of medicine, as outlined in the Basic Science laws of this State;

NOW THEREFORE BE IT RESOLVED that (1). The South Dakota Academy of Ophthalmology and Otorhinolaryngology acknowledges and compliments the tremendous efforts of the various individuals and organizations in their attempt to develop the fields of speech pathology and audiology in the State of South Dakota. (2) Suggests to the speech pathologists and audiologists that they and the physicians of this State work as members of a team to promote effective treatment of the entire individual as well as treat hearing and speech disorders. (3) Recommends to the South Dakota Speech and Hearing Association and all who administer speech therapy and do audiology that they recognize the advantages but also be aware of the limitations of their training so that misguided or overzealous efforts may not interfere with treatment of persons who may come under this supervision. (4) Advances for the deliberation of the South Dakota Speech and Hearing Association the thought that it consider the possibility of licensure for those who profess to treat speech and hearing problems, subject to minimum requirements, examination, certification, and revocation of license for good reason, and the development of a grievance committee for this organization to review and pass upon problems relating to its members.

Dr. Lewis moved that this matter be referred to the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Swanson and carried.

A discussion was held regarding the resolution adopted by the South Dakota Academy of Ophthalmology and Otolaryngology regarding a study of the South Dakota State Health Department.

May 20, 1968
To The Council of the South Dakota State Medical Association:

The resolution herewith attached was passed unanimously by the Academy at its annual meeting held in Aberdeen, this date. The Secretary was instructed to forward it to the Council at once.

Respectfully submitted,
J. B. Gregg, M.D.
Secretary-Treasurer
South Dakota Academy of Ophthalmology and Otolaryngology

A RESOLUTION ADOPTED UNANIMOUSLY BY THE SOUTH DAKOTA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY AT ITS ANNUAL MEETING IN ABERDEEN, SOUTH DAKOTA ON THE DATE OF MAY 20, 1968, AND DIRECTED TO THE COUNCIL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION.

WHEREAS, the South Dakota State Health Department, including the Crippled Children's Service and other programs, its affairs, policies, and its Director are of vital concern to the South Dakota State Medical Association, and

WHEREAS, There is now growing dissatisfaction with many policies of this Department by the physicians of this state, and

WHEREAS, The term of office of the present Director of the State Health Department and Crippled Children's Division soon terminates,

NOW THEREFORE BE IT RESOLVED that the South Dakota Academy of Ophthalmology and Otolaryngology urges the South Dakota State Medical Association through its duly elected and appointed officers, committees and commissions to:

1) Investigate the policies of the South Dakota Health Department, the Crippled Children's Service, and all other pertinent Divisions insofar as possible reorganization of this Department and its subdivisions so as to promote better patient care and to provide better liaison between it and the medical and allied health care professions.

2) Investigate the potential replacements in the event of the retirement of the present Director of the South Dakota State Health Department when his term of office expires soon, and make appropriate recommendations to the duly constituted authorities of this State.

3) Report to the South Dakota State Medical Association through its Council and advisory media within six months of the results of this investigation and any appropriate recommendations for change in the South Dakota State Health Department, its policies or its officers.

Dr. Cosand moved that this item be referred to the Commission on Legislation and Governmental Relations and that they attempt to have several names to suggest for Director of the State Health Department and that they consider the possibility of a study of the Health Department and reorganization of this department and also methods which could be utilized for study and reorganization. The motion was seconded by Dr. Stransky and carried.

Nominations were in order for Councilor from the Madison-Brookings District inasmuch as J. A. Muggly, M.D. was elected Vice President. The Council requested that the Madison-Brookings District submit three names for consideration before a decision is made.

Dr. Quinn gave a brief report on the Vocational Rehabilitation Disability Program and again urged that Mr. Ben Hins be invited to the fall Council meeting to clarify this situation.

It was decided that the fall Council meeting should start at noon on Saturday and continue through Sunday morning. A definite date was not set.

Dr. Elston moved that the meeting be adjourned. The motion was seconded by Dr. Taylor and carried.

FIRST HOUSE OF DELEGATES MEETING
Aberdeen, South Dakota
May 18, 1968

The meeting was called to order by the Speaker of the House of Delegates, R. H. Hayes, M.D. The following physicians were present for roll call: Drs. John J. Stransky; John T. Elston; Robert H. Quinn; A. P. Reding; R. H. Hayes; E. J. Perry; G. Robert Bartron; J. A. Muggly; Harvard Lewis; E. T. Lietzke; Clark Johnson; C. E. Tesar; Harold Lowe; H. H. Brauer; Samuel Rosa; C. B. Murdy; G. E. Tracy; Romans Auskaps; R. G. Belatti; D. L. Scheller; C. L. Swanson; Clifford Lardinois; G. M. Huet; J. O. Mabee; R. G. Gere; D. L. Ensberg; B. J. Begley; J. B. Gregg; R. R. Giebink; E. A. Pasek; Karl Wegner; Lloyd Sweeney; George Knabe; Melford B. Lyso; Lawrence Behan; W. Kovarik; L. E. Carson; H. S. Shining; J. E. Ryan; and L. W. Keller.

Dr. Lardinois moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published in the South Dakota Journal of Medicine. The motion was seconded by Dr. Wegner and carried.

Dr. Hayes read the appointments to the Reference Committees as follows:

Reference Committee on Credentials
Robert Quinn, M.D., Chairman
W. Kovarik, M.D., F. Pokorny, M.D.

Reference Committee on Reports of Officers and Councilors
D. L. Ensberg, M.D., Chairman
L. E. Carson, M.D., W. H. Hoewing, M.D.

Reference Committee on Resolutions and Memorials
G. E. Tracy, M.D., Chairman
G. M. Huet, M.D., E. A. Pasek, M.D.

Reference Committee on Reports of Commissions on Medical Service, Communications and Allied Organizations
J. A. Eckrich, Jr., M.D., Chairman
D. L. Scheller, M.D., R. R. Giebink, M.D.

Reference Committee on Reports of Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations
Samuel Rosa, M.D., Chairman
R. G. Gere, M.D., C. J. McDonald, M.D.
G. W. Knabe, Jr., M.D.

Reference Committee on Special Committees and Miscellaneous Business
R. G. Belatti, M.D., Chairman
C. E. Tesar, M.D., J. B. Gregg, M.D.
J. E. Ryan, M.D.

Dr. Bartron moved that the Reports of Officers and Councilors as contained in the Handbook be referred to the appropriate reference Committee for action. The motion was seconded by Dr. Perry and carried.

Dr. B. J. Begley introduced Resolution #1 from the Seventh District Medical Society concerning the Heart, Cancer and Stroke Program.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION
HOUSE OF DELEGATES
Resolution #1

Introduced by: Seventh District Medical Society
Subject: Heart, Cancer, and Stroke Program

WHEREAS, the health problems and solutions to those problems are unique in South Dakota because of its largely rural makeup, and

WHEREAS, the health services for the people of South Dakota are largely service oriented, and

WHEREAS, the problems of health care relating to cancer, heart, and stroke for the State of Nebraska may prove to be quite different than for the State of South Dakota.

THEREFORE BE IT RESOLVED that the House of Delegates of the South Dakota State Medical Association be urged to study feasibility and desirability of dissociating the Cancer, Heart, and Stroke program of the States of Nebraska and South Dakota.

The resolution was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business. Dr. Melford Lyso introduced Resolution #2 from the Eighth District Medical Society concerning the Medical School at Vermillion.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION
HOUSE OF DELEGATES
Resolution #2

Introduced by: Eighth District Medical Society
Subject: University of South Dakota School of Medicine

WHEREAS, the School of Medicine of the University of South Dakota is an important resource for the training of medical students and other health professionals, for the conduct of research which is important to medical education and also to the advancement of scientific knowledge, and for assistance in the implementation of health care programs, and

WHEREAS, the School of Medicine is not now capable of satisfactorily fulfilling all of its responsibilities in the above areas because of serious inadequacies in financial and organizational support as is detailed in reports from accrediting agencies, medical education consultants, and from formal medical school reports and surveys, and

WHEREAS, unless these inadequacies are corrected, the School of Medicine will become unable to sustain the quality of its existing programs and will be unable to meet the need to produce health manpower or to provide for new programs to enhance the delivery of health care,

THEREFORE BE IT RESOLVED that the South Dakota State Medical Association confirm that the above-described situation exists and take prompt remedial action, and that this include requesting that appropriate State agencies and others responsible for and concerned with the administration and support of the School of Medicine take the essential steps to provide for its present operation and necessary future development.

The resolution was referred to the Reference Committee on Reports of Special Committees and Miscellaneous Business. Dr. Carson introduced Resolution #3 from the Black Hills District Medical Society concerning annual meetings.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION
HOUSE OF DELEGATES

Resolution:
Introduced by: 9th District (Black Hills) Medical Society
Subject: Revision of Annual Meeting and Scientific Program of SDSMA

Whereas, the annual meeting of the South Dakota State Medical Association, consisting of both business and scientific sessions, occupies a minimum of four days time, and

Whereas, the scientific session, traditionally following the business session, is often pressed for time and fails of best attendance, and

Whereas, more time would be allowed and attendance improved if the business and scientific sessions were held in separate sessions at two different times,

Be it therefore resolved that the House of Delegates of the South Dakota State Medical Association instruct the Council to study and consider, prior to the 1969 annual meeting, splitting the annual meeting into a late spring or early summer business session to be held in the eastern part of the state and a late summer or fall scientific session to be held annually in Rapid City.

The resolution was referred to the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations. Resolution #4 was read by Dr. Hayes concerning ambulance service under Medicare which was submitted by J. W. Argabrite of Watertown.

Be it resolved that the Blue Shield carrier, Part B Medicare, or any other third party carrier of medical insurance go on record supporting the philosophy to the best of their ability that the patient's own free will be exercised as to their choice of physician.

1. Whereas: a patient requiring ambulance travel for executing the proper treatment of the patient's illness will be taken to his own private physician whenever an emergency does not exist.

2. Whereas: the same competent care is available at a closer distance to the patient that this be given the next priority. Whereas: in the event the latter decision is exercised the third party carrier reimburse this patient for the ambulance cost to this station. Therefore, be it resolved that if such an incident should occur the third party carrier will reimburse this patient for the ambulance cost to the nearest station whichever is the least distance with the best interests of the patient being maintained.

John W. Argabrite, M.D.

The resolution was referred to the Reference Committee on Reports of Commissions on Medical Service, Communications and Allied Organizations.

Magni Davidson, M.D. of Brookings, South Dakota, was nominated for Honorary Life Membership by the Third District Medical Society. Dr. Lietzke moved that Dr. Davidson be named an Honorary Life member of the State Association. The motion was seconded by Dr. Belatti and carried.

Dr. Begley discussed the dues and financial situation of the State Association and indicated where cuts in spending had been instituted to delay a dues increase.

Assignments of reports in the Handbook were announced by Dr. Hayes.

The meeting adjourned at 2:15 P.M.

SECOND HOUSE OF DELEGATES MEETING
Aberdeen, South Dakota
May 19, 1968

The second meeting of the House of Delegates was called to order at 1:30 P.M. by Dr. Robert H. Hayes, Speaker. Present for roll call were the following physicians: Drs. John J. Stransky, John T. Elston, Robert H. Quinn, A. P. Reding, Robert H. Hayes, E. J. Perry, J. A. Muggly, Harvard Lewis, E. T. Lietzke, Clark Johnson, C. E. Tesar, Harold Lowe, Samuel Rosa, C. B. Murdy, G. E. Tracy, R. Auskaps, R. G. Belatti, D. L. Scheller, C. L. Swanson, Clifford Lardinois, G. M. Huet, J. O. Mabee, R. G. Gere, D. L. Ensberg, B. J. Begley, J. B. Gregg, R. R. Giebink, E. A. Pasek, P. K. Aspaas, Lloyd Sweeney, George Knabe, Melford B. Lyso, Lawrence Behan, W. Kovarik, L. E. Carson, H. S. Shining, and L. W. Keller.

Dr. Lardinois moved to dispense with the reading of the minutes of the previous meeting inasmuch as they will be published in the South Dakota Journal of Medicine. The motion was seconded by Dr. Belatti and carried.

The Report of the Nominating Committee was read by B. J. Begley, M.D.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee met in the West Room with eleven members present.

The Committee considered the nominations for Counselor from Districts 1, 2, 4, 5, and 8. The following nominees are presented to the House of Delegates for consideration:

District 1	William Taylor, M.D.
District 2	G. Robert Bartron, M.D.
District 4	C. L. Swanson, M.D.
District 5	Winston Odland, M.D.
District 8	Clark Johnson, M.D.

The Committee nominates the following as officers of the Association:

President	John T. Elston, M.D.
President Elect	Robert H. Quinn, M.D.
Vice President	Joseph Muggly, M.D.
AMA Delegate	A. P. Reding, M.D.
Alternate AMA Delegate	Robert Quinn, M.D.
Speaker of the House	Gerald Tracy, M.D.

The Committee discussed possible sites for future conventions. Sioux Falls was selected to replace Yankton in 1970 because of inadequate facilities in Yankton. The following recommendations are made for future meeting sites for the annual convention:

1969	Watertown
1970	Sioux Falls
1971	Rapid City

Respectfully submitted,
B. J. Begley, M.D., Chairman
Nominating Committee

Dr. Belatti moved that the Report of the Nominating Committee be accepted. The motion was seconded by Dr. Knabe and carried.

Dr. Robert Quinn read the report of the Reference Committee on Credentials.

REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS

The credentials of the Delegates to the South Dakota State Medical Association were checked and the following delegates, alternates, officers and councilors were present:

Doctors John J. Stransky, John T. Elston, Robert H. Quinn, A. P. Reding, Robert H. Hayes, E. J. Perry, G. Robert Bartron, J. A. Muggly, Harvard Lewis, E. T. Lietzke, Clark Johnson, C. E. Tesar, Harold Lowe, H. H. Brauer, Samuel Rosa, C. B. Murdy, G. E. Tracy, Romans Auskaps, R. G. Belatti, D. L. Scheller, C. L. Swanson, Clifford Lardinois, G. M. Huet, J. O. Mabee, R. G. Gere, D. L. Ensberg, Karl Wegner, B. J. Begley, J. B. Gregg, R. R. Giebink, E. A. Pasek, P. K. Aspaas, Lloyd Sweeney, George Knabe, Jr., Melford B. Lyso, Lawrence Behan, W. Kovarik, L. E. Carson, H. S. Shining, J. E. Ryan, L. W. Keller.

A quorum was present for the meeting of the House of Delegates and the credentials of those in attendance were in order.

Total registration for the convention is 341, including 167 physicians and 34 guests, 75 exhibitors, and 65 Auxiliary members.

Respectfully submitted,
REFERENCE COMMITTEE ON CREDENTIALS
Robert H. Quinn

Dr. Perry moved that the report of the Reference Committee on Credentials be accepted. The motion was seconded by Dr. Tracy and carried.

The Report of the Reference Committee on Reports of Officers and Councilors was read by Dr. D. L. Ensberg.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS

The report of the President was reviewed and studied and special note was taken of thirty-four (34) meetings and visitations at which he was in attendance. The Committee feels that he should be commended for the liberal use of his time and personal funds expended in travel throughout the past year.

The Committee considered the reports of the President-Elect, Vice President, and Secretary-Treasurer. Dr. Reding appeared at the Committee meeting and reiterated the soundness of the financial position of the Association to "break even." The Committee recommended the approval of these reports.

The reports of the Delegate and Alternate Delegate to the AMA were reviewed. The Committee feels that special commendation should go to Drs. Reding and Quinn for their time and attention in performing the functions of Delegate and Alternate Delegate.

The report of the Speaker of the House was reviewed and noted.

The report of the Executive Committee and Councilor-at-Large were reviewed and found satisfactory.

The report of the Executive Secretary was studied. The Committee feels that he should be commended for his alertness, diligence and perseverance in furthering the interests of the physicians of South Dakota. The Committee would again recommend that all members of the Society read the summary of the Executive Secretary's report.

The reports of the councilors were reviewed and found to be generally satisfactory. It was noted that there is a considerable amount of activity in the various districts and throughout the state which is unpublicized. The Committee urges all districts to submit their reports in time for publication. Notice was taken of the "No Report" report submitted by the Tenth District.

The report of the Council was reviewed and found satisfactory.

The Committee recommends the acceptance of the report as a whole, and I so move.

Respectfully submitted,
REPORTS OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND COUNCILORS
D. L. Ensberg, M.D., Chairman
L. E. Carson, M.D.

Dr. Ensberg moved the acceptance of the report. The motion was seconded by Dr. Pasek and carried.

The Report of the Reference Committee on Resolutions and Memorials was read by Dr. G. E. Tracy.

REPORT OF THE REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS

WHEREAS, the Aberdeen District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 87th Anniversary,

BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians of Aberdeen and their wives.

WHEREAS, the management of the Holiday Inn and the Downtowner Friendship Inn have been so cooperative in providing facilities for the success of the 87th Anniversary meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Holiday Inn and Downtowner Friendship Inn.

WHEREAS, the Chamber of Commerce has provided excellent service in making it possible for the success of the working arrangements,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Aberdeen Chamber of Commerce.

WHEREAS, the Aberdeen American News and KXAB-TV, KABR - Radio, and KSDN - Radio have been most cooperative in presenting the public news of the 87th annual meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen American News, KXAB-TV, and radio stations KABR and KSDN.

WHEREAS, the Aberdeen Country Club has provided facilities for the Stag Party contributing much to the success of the meeting and entertainment,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen Country Club.

WHEREAS, the management of the Aberdeen Civic Arena, has provided facilities for the general sessions of our 87th annual meeting and contributed greatly to the success of our convention,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the management of the Civic Arena.

WHEREAS, South Dakota Blue Shield has provided a continental breakfast on two mornings and contributed to the success of our 87th annual meeting,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to South Dakota Blue Shield.

The Reference Committee also recommends that $50.00 be donated to the South Dakota State Medical School Endowment Association for each of the physicians who passed away during the past year and are listed in the Handbook with the exception of A. P. Scheib, M.D. for whom a donation was made last year. In addition to those listed in the handbook a donation will be made for C. V. Auld, M.D. of Yankton who expired in May, 1968.

Respectfully submitted,
REFERENCE COMMITTEE ON RESOLUTIONS AND MEMORIALS
G. E. Tracy, M.D., Chairman

Dr. Tracy moved the acceptance of the report. The motion was seconded by Dr. Lietzke and carried.

The Report of the Reference Committee on Reports of the Commissions on Communications, Medical Service, and Allied Organizations was read by Dr. Scheller.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSIONS ON MEDICAL SERVICE, COMMUNICATIONS AND ALLIED ORGANIZATIONS

REPORT OF THE COMMISSION ON COMMUNICATIONS

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMISSION ON LIAISON WITH ALLIED ORGANIZATIONS

The Reference Committee recommends the acceptance of this report.

REPORT OF THE COMMISSION ON MEDICAL SERVICE

1. Safety Activities and Rural Health — The Reference Committee recommends the acceptance of this portion of the report.
2. Certification Form for Eye Examinations — The Reference Committee recommends the acceptance of this portion of the report.
3. Recommendations to the Department of Motor Vehicles — The Reference Committee recommends the acceptance of this portion of the report.
4. School Health and Immunization — The Reference Committee recommends the acceptance of this portion of the report.
5. Communicable Disease Committee — The Reference Committee recommends the acceptance of this portion of the report.
6. Women's Auxiliary — The Reference Committee recommends the acceptance of this portion of the report.
7. Medical School Feasibility Study — The Reference Committee recommends the acceptance of this portion of the report.
8. Crippled Children's Program — The Reference Committee recommends the acceptance of this portion of the report.
9. Resolution from the Pediatric Society — The Reference Committee recommends the acceptance of this portion of the report.

RESOLUTION RECEIVED FROM JOHN W. ARGABRITE, M.D. — #4.

The Reference Committee does not recommend the acceptance of this resolution.

Respectfully submitted,
D. L. Scheller, M.D.
Acting Chairman
R. R. Giebink, M.D.

Dr. Scheller moved the acceptance of the report. The motion was seconded by Dr. Swanson and carried.

The Report of the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Legislation and Governmental Relations was read by Dr. Samuel Rosa.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSIONS ON SCIENTIFIC MEDICINE, INTERNAL AFFAIRS, AND LEGISLATION AND GOVERNMENTAL RELATIONS

REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS.

The Reference Committee considered the report of the Commission on Legislation and Governmental Relations and recommends the acceptance of this report.

REPORT OF THE COMMISSION ON SCIENTIFIC MEDICINE

The Reference Committee considered the report of the Commission on Scientific Medicine and recommends the acceptance of this report.

REPORT OF THE COMMISSION ON INTERNAL AFFAIRS

The Reference Committee considered the report of the Commission on Internal Affairs and recommends the acceptance of this report.

RESOLUTION INTRODUCED BY THE BLACK HILLS MEDICAL SOCIETY

The Reference Committee recommends to the House of Delegates that no action be taken and that this resolution be referred to the Commission on Scientific Medicine for study.

The Committee recommends the acceptance of the reports as a whole and I so move.

Respectfully submitted,
REFERENCE COMMITTEE ON
REPORTS OF THE COMMISSIONS ON
SCIENTIFIC MEDICINE, INTERNAL
AFFAIRS, AND LEGISLATION AND
GOVERNMENTAL RELATIONS
Samuel Rosa, M.D., Chairman
R. G. Gere, M.D.
G. W. Knabe, Jr., M.D.
Lloyd Sweeney, M.D.

Dr. Rosa moved the acceptance of this report. The motion was seconded by Dr. Perry. Dr. Gregg moved to amend the motion to indicate that the Commission on Scientific Medicine should report back to the House of Delegates at the annual meeting in 1969 on their recommendations concerning Resolution #3. The amendment was seconded by Dr. Begley and carried. The motion by Dr. Rosa, as amended, was then voted on and carried.

Dr. Belatti read the report of the Reference Committee on Miscellaneous Business and Special Committees.

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS

The Reference Committee considered the report of the Grievance Committee and recommends the acceptance of this report.

The Reference Committee considered the report of the State Utilization and Insurance Review Committee. The Committee recommends the acceptance of this report with emphasis being given to the recommendation that all claims be submitted with listings exactly as they appear in the Relative Value Study.

The Reference Committee considered Resolution #1, submitted by the Seventh District Medical Society concerning the Heart, Cancer and Stroke Program. The Committee urges a "Do Pass" for Resolution #1. If the House of Delegates concurs with our recommendation, we would suggest that the resolution be returned to the Council of the South Dakota State Medical Association for appropriate action.

The Reference Committee considered Resolution #2, submitted by the Eighth District Medical Society concerning the University of South Dakota Medical School. The Committee recommends the adoption of this resolution and would suggest that it be returned to the Council for implementation and the possible appointment of an ad hoc committee to accomplish its aims.

Respectfully submitted,
REFERENCE COMMITTEE ON
SPECIAL COMMITTEES AND
MISCELLANEOUS BUSINESS
R. G. Belatti, M.D., Chairman
C. E. Tesar, M.D.
J B. Gregg, M.D.
J. E. Ryan, M.D.

Dr. Belatti moved the acceptance of the report. The motion was seconded by Dr. Gregg and carried. Dr. Hayes administered the Oath of Office to Dr. John T. Elston, the incoming president of the South Dakota State Medical Association. Dr. Hayes gave several announcements pertaining to the coming events of the convention.

The meeting adjourned at 2:15 P.M.

PRESIDENTIAL OATH OF OFFICE

I solemnly swear that I shall carry out the duties of the President of the South Dakota State Medical Association to the best of my ability. I shall strive constantly to maintain the ethics of the medical profession and to promote the public health and welfare. I shall dedicate myself and my office to improving health standards and to the task of bringing increasingly improved medical care to the people of South Dakota. I shall uphold the Constitution and Bylaws of the AMA and the South Dakota State Medical Association. I shall champion the cause of freedom

in medical practice and freedom for all my fellow Americans.

I do solemnly swear that I will discharge the duties of this office to the best of my ability, so help me God.

REPORT OF THE PRESIDENT

First, let me express my deep appreciation and gratitude to all of the officers and members of the Association for their generous help and cooperation this past year. To Dick Erickson and his staff a special thanks for making my task much easier and more enjoyable.

During this past year I have had the opportunity to attend medical society meetings in each of the twelve districts throughout the state. These visitations are surely to be counted among the most enjoyable of my activities.

This has been a year of varied activities and much travel — approximately 15,000 miles of travel by auto, private aircraft, and commercial airline. The following is a listing of my activities this past year.

May 20, 1967 Meeting of Commission Chairmen, SDSMA, Sioux Falls; **June 17-22, 1967** AMA Annual Meeting, Atlantic City, N. J.; **July 15, 1967** Meeting of Commission Chairmen, SDSMA, Sioux Falls; **July 18** Regional Executive Committee, Heart, Cancer, Stroke (RMP)—Omaha, Nebraska; **August 1, 1967** Reception for Dr. and Mrs. M. Rouse, Brookings; **August 10** Visitation, Brookings-Madison District, Brookings; **August 15** RMP Regional Executive Committee, Omaha, Nebraska; **August 18** Medical Advisory Committee, State Motor Vehicle Commission — Pierre; **August 24-25** AMA Communications Institute, Chicago, Illinois; **September 8, 1967** SDSMA Council Meeting, Watertown; **September 9** SODAPAC Seminar, Watertown; **September 14** Comprehensive Health Planning Meeting, Huron; **September 14** Visitation, Huron District; **October 4, 1967** Visitation, Aberdeen District; **October 12** RMP Regional Executive Committee, Omaha, Nebraska; **October 20** SDSMA Council Meeting, Yankton; **October 25** Visitation, Whetstone District, Milbank; **October 29** North Central Conference, St. Paul, Minnesota; **November 7, 1967** RMP Regional Executive Committee, Norfolk, Nebraska; **November 25-29** AMA Clinical Meeting, Houston, Texas; **December 5, 1967** Visitation, Sioux Falls District; **December 9** SDSMA Council Meeting, Sioux Falls; **December 14** Visitation, Mitchell District; **January 2, 1968** Opening Session of Legislature; **January 2** Visitation, Pierre District; **January 3** Visitation, Northwest District, Mobridge; **January 25** Visitation, Yankton District; **January 30** RMP Regional Executive Committee, Omaha, Nebraska; **February 13, 1968** Visitation, Black Hills District, Rapid City; **March 9, 1968** SDSMA Commission Meetings, Sioux Falls; **April 19, 1968** State Meeting, Radiology Technicians, Watertown; **April 20** SDSMA Council Meeting, Sioux Falls; **April 24** Visitation, Rosebud District, Winner; **May 18-21, 1968** Annual Meeting, SDSMA, Aberdeen.

Respectfully submitted,
John J. Stransky, M.D.
President

The report of the President was reviewed and studied and special note was taken of 34 meetings and visitations at which he was in attendance. The Committee feels he should be commended for the liberal use of his time and personal funds expended in travel throughout the past year.

REPORT OF THE PRESIDENT-ELECT

During the past year, I have served in the office of President-Elect of your State Medical Association and in this capacity, I have attended the regular and special meetings of the Council. I also attended the House of Delegates meeting of the AMA at the annual session in June of 1967 and a special national conference in December concerning the Health Care for the Poor.

I have continued my activities as a member of the Board of Directors of South Dakota Medical Service, Inc., and have attended the regular and special meetings of that body.

Respectfully submitted,
John T. Elston, M.D.
President-Elect

The Committee considered the report of the President Elect and recommends the acceptance of this report.

REPORT OF THE VICE PRESIDENT

During the past year, there have been no specific duties assigned to the Vice President, other than attendance at the Council meetings and executive committee meetings. I have attended all scheduled meetings in the State as well as the AMA annual and interim meetings during the 1967-68 term of office.

Respectfully submitted,
Robert H. Quinn, M.D.
Vice President

The Committee considered the report of the Vice President and recommends the acceptance of this report.

REPORT OF THE SECRETARY-TREASURER

As your officer, I have attended all Executive and Council meetings during the year. The duties of this office were carried out with the assistance of our competent executive secretary, Richard C. Erickson, and the staff at the association office.

Respectfully submitted
A. P. Reding, M.D.
Secretary-Treasurer

The Committee considered the report of the Secretary Treasurer, as well as the oral report of Dr. Reding. The Committee recommends acceptance of this report.

REPORT OF THE AMA DELEGATE AND ALTERNATE DELEGATE

The 116th annual convention of the American Medical Association was held in Atlantic City, New Jersey on June 18-22, 1967.

Your state association was represented at this meeting by your president, John J. Stransky, M.D.; your president-elect, John T. Elston, M.D.; your delegate, A. P. Reding, M.D.; your alternate delegate, Robert H. Quinn, M.D.; and your executive secretary, Richard C. Erickson.

The 21st clinical convention of the American Medical Association was held in Houston, Texas on November 26-29, 1967.

Your state association was represented by your president, John J. Stransky, M.D.; your delegate, A. P. Reding, M.D.; your alternate delegate, Robert H. Quinn, M.D.; and your executive secretary, Richard C. Erickson. The dean of the medical school, George Knabe, Jr., M.D. also attended the sessions of the House of Delegates.

After each of these meetings, a summary of the actions of the House of Delegates was mailed to each member of the state association from our executive office. Detailed reports were also published in the **AMA News** and the **JAMA.** Other important information was either included in the **Grab Bag** or sent out by special letter from the executive secretary.

Respectfully submitted,
A. P. Reding, M.D.
AMA Delegate
Robert H. Quinn, M.D.
Alternate Delegate

The Committee reviewed the report of the Delegate and Alternate Delegate to the AMA. The Committee feels that special commendation should go to Drs. Reding and Quinn for their time and attention in performing the functions of Delegate and Alternate Delegate.

REPORT OF SPEAKER OF THE HOUSE

My responsibility for Regional Medical Programs has allowed me to work with nearly all Health Personnel in all of South Dakota. I have been able to visit physicians throughout the year and during these visits we have discussed many problems peculiar to the Association.

Looking back over the years it appears that our impression of "the coming new era in Health" was correct and at least, we in South Dakota, are prepared for the multiple reports, fiscal agents, quintuplet copies, etc.

It strikes me that we must now all sit down and do some Comprehensive Health Planning. We have actually been doing this for years but we have not involved the great number of non-physicians that we must involve to come up with meaningful planning. Now is the time and I am certain that, with the great interest exhibited to this point, we will be the leaders in Health — even in the "New System."

Respectfully submitted,
Robert H. Hayes, M.D.
Speaker of the House

The Committee reviewed the report of the Speaker of the House and recommends the acceptance of the report.

REPORT OF THE EXECUTIVE COMMITTEE

The Executive Committee met on two occasions during this past year. On May 5, 1967, a conference call was held regarding Title XIX affairs.

In October of 1967, the Executive Committee met following a Council meeting in Yankton. This meeting dealt with salary schedules for state office personnel.

Respectfully submitted,
John J. Stransky, M.D.
Chairman
Executive Committee

The report of the Executive Committee was reviewed and found satisfactory.

REPORT OF THE COUNCILOR AT LARGE

As Councilor at Large, I have attended Council meetings and carried out such tasks as assigned during the past year.

Respectfully submitted,
Preston Brogdon, M.D.
Councilor at Large

The Committee reviewed the report of the Councilor at Large and found it to be satisfactory.

REPORT OF THE EXECUTIVE SECRETARY

During the past year, your staff has endeavored to render as many services as possible within the limits established by the Association. Association activities continue to grow and with the expansion of government health programs, it is apparent that all of us will be busy, just keeping up with the "times."

Liaison With District Societies

This year your Executive Secretary attended thirteen district meetings and all but one district were visited at least once. In addition, your Public Relations Director appeared at eleven district meetings, most in conjunction with the Executive Secretary. A recommendation would be that all districts attempt to meet at least three times per year.

Public Relations

A new position was created within the organization this year, that of a Public and Professional Relations Director. Mr. Bob Johnson assumed this position after completing fifteen months as Claims Director with Blue Shield. Since August, 1967, Mr. Johnson has visited 135 physicians and called on an additional 101 who were unable to see him. He attended eighteen meetings and traveled 17,200 miles. Your Executive Secretary attended 44 meetings outside the office and traveled 30,200 miles. In the course of travel the Executive Secretary gave five speeches, attended nine national meetings and 19 in-state meetings. In addition, Mrs. Butler traveled 2,500 miles and attended six meetings. In total, your staff represented you at 68 meetings and traveled a total of 50,000 miles. This, of course, was in addition to the physicians who represented the Association at a number of national and state meetings.

The office continues to supply approximately 30,000 pamphlets per year to civic clubs and organizations. Financial support to medical students through loans and scholarships is always part of your program, as well as some continuing support for other medically oriented programs. After a number of years, the public relations booth at the State Fair was revived and was a success due to the seven physicians who took time from their practice to spend a day working in the booth. We hope to have an even bigger and better booth this coming year, in addition to an expanded Public Relations program.

Headquarters Building

Each year this report seems to include additions or changes in the headquarters building and this year was no exception. A 3,000 square foot addition was completed in January at a cost of $47,000 financed by a loan from Blue Shield. The structure has provided the additional space necessary to house some of the 55 employees now involved in Blue Shield, Medicare, Title 19 and Association activities. During the year all interest was paid on notes outstanding in addition to retiring $6,737.36 in principal and notes.

Commissions

This year each commission met twice and while each commission has reported individually to the House of Delegates, it is important to take note of the work these 72 physicians carry out during the year. The real heart of the operation lies within the commission system of your organization. In addition, praise should be given to the other committees including Grievance, Utilization and Review and the Ad Hoc Committees on Title 19 and Comprehensive Health Planning.

Legislation

As in the past, health legislation consumes a great deal of time and effort on the part of your staff. "Medicine" at all legislative levels seems to be a favorite target. Your Executive Secretary and Bob Johnson spent January and February in Pierre, working with the Legislature on nineteen medical bills including everything from a study on "Why Physicians do not Locate in Rural South Dakota" to Uniform Drug Controls. An amendment to the Basic Science law allowing physicians to reciprocate national boards with the Basic Science Board may well be the most important legislation we supported this year. The House should take note of the outstanding job Senator Bartron has done at the legislative level. His work has made our job a lot easier.

Blue Shield, Medicare, Medicaid, Etc.

Some have said that Blue Shield has really "come into its own" in the past year. Certainly it has demonstrated that as "the arm of Medicine" in South Dakota, it can accomplish any task given it by the physicians. Two accomplishments of real significance should be noted by the House:

1. In the Medicare operation, Blue Shield has fashioned a most difficult program into a smooth working operation, thus giving South Dakota Blue Shield the distinction of being "Number One" in the nation in speed of processing claims and minimum backlog for most of the year.
2. Additions in surplus for the year gained from our regular underwritten business was $176,794 thus providing a total surplus of $310,696. This surplus equals 3.09 months average claims and expenses; which is the recommended minimum surplus level. This is another "first" in eleven years operation. One should remember that all this was started on $15,000 capital loaned by physicians in 1956. Blue Shield claims processed totaled 134,200 and payments made to physicians and patients for the year include:

Blue Shield Standard business	$1,015,342.07
Medicare	3,397,689.75
Medicaid and State Welfare	309,593.89
Dependents - Servicemen	62,709.76
Total	$4,785,335.47

Journal

Another excellent report can be made on behalf of the Journal this year. Advertising is higher and the operation continues in the black. We continue to seek interesting scientific articles for publication in addition to other informative presentations. Three new feature sections include: "Medicine, Legal and Ethics," "Medical School Page" and "Twenty Years Ago." Dr. Van Demark is to be commended on the many hours he devotes to reviewing articles, working with staff and serving as Editor.

Summary

Your Executive Secretary has noted in this report the accomplishments for the year and in essence pointed out only the "good," while in truth there are always the mistakes and oversights that happen within every office and every organization. We are aware of such things as double payments, poorly worded letters, unnecessary correspondence and the like. We hope that you, the members of the Association, will bear with us while we continue to develop your staff. Most of the employees have less than a year in the office and it takes a little time for them to become familiar with terms like gastrojejunostomy.

I would like to thank the President, Dr. Stransky, the officers, councilors, commission chairmen and commission and committee members for all of their hard work during the past year; and a devoted staff who still think doctors are great.

Respectfully submitted,
Richard C. Erickson
Executive Secretary

The report of the Executive Secretary was studied. The Committee feels that he should be commended for his alertness, diligence and perseverance in furthering the interests of the physicians in South Dakota. The Committee would again recommend that all members of the Society read the summary of the Executive Secretary's report.

REPORT OF THE COUNCILOR FIRST DISTRICT

MEMBERSHIP: 49 Members
OFFICERS:

President—	William Taylor, M.D.
Vice President—	George McIntosh, M.D.
Secretary-Treasurer—	David Seaman, M.D.
Councilor—	E. J. Perry, M.D.
Censors—	Paul Leon, M.D. Carson Murdy, M.D. Karlis Zvejnieks, M.D.
Delegates—	J. A. Eckrich, Jr., M.D. Samuel Rosa, M.D. Carson Murdy, M.D.
Alternate Delegates—	Thomas Bunker, M.D. G. H. Steele, M.D. A. Shousa, M.D.

The Aberdeen District Medical Society holds monthly dinner meetings on the first Wednesday of each month from September to June. The following is a list of the events and speakers.

SEPTEMBER:
The first fall meeting of the Aberdeen District Society was held at the Country Club. Robert F. Premer, M.D., Chief of Orthopedics at the Minneapolis Veteran's Hospital was the speaker.

OCTOBER:
J. J. Stransky, M.D., President of the South Dakota State Medical Association visited the Aberdeen District. Mr. Richard C. Erickson, Executive Secretary of the Association was also present. The Medical Auxiliary attended the meeting.

NOVEMBER:
A combined meeting with the Auxiliary was held to discuss preliminary plans for the State meeting to be held in Aberdeen. J. Argabrite, M.D. of Watertown, S. D., spoke on "Skin Tests in Allergy."

DECEMBER:
The annual election of officers and committee appointments were accomplished.

JANUARY:
Robert Hayes, M.D. of Vermillion, S. D., spoke on the development of a Regional Center for Heart, Stroke and Cancer diseases for South Dakota and Nebraska. J. A. Eckrich, Jr., M.D., spoke on Nephrotoxic Drugs.

FEBRUARY:
A combined meeting with the Auxiliary was held. John B. Gregg, M.D. of Sioux Falls, S. D., presented a program of his study of Indian skulls for the presence of ear diseases.

MARCH:
Mr. Richard C. Erickson, Executive Secretary of the South Dakota State Medical Association discussed the State meeting to be held in Aberdeen in May. The scientific program was presented by Karl Kosse, M.D. who discussed "Mannitol Therapy in Acute Renal Failure."

APRIL:
The speaker was Brooks Ranney, M.D. of Yankton, S. D., who spoke on Gynecological Problems. G. J. Bloemendaal, M.D. was submitted as the Aberdeen District's candidate for the Distinguished Service Award.

MAY:
The final plans for the annual meeting were arranged. Thomas A. Shields, M.D., Associate Professor of Surgery at Northwestern University addressed the Society.

Respectfully submitted,
E. J. Perry, M.D.
Councilor
First District

The Committee has considered the report of the Councilor from the First District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR SECOND DISTRICT

MEMBERSHIP: 28 Members
OFFICERS:

President	S. W. Allen, Jr., M.D.
Vice-President	David F. Piro, M.D.
Secretary-Treasurer	T. J. Wrage, Jr., M.D.
Councilor	G. Robert Bartron, M.D.
Board of Censors	C. R. Stoltz, M.D. C. F. Ryan, M.D. P. S. Nelson, M.D.
Delegates	Romans Auskaps, M.D. 1 year G. E. Tracy, M.D. 2 years
Alternates	C. J. Clark, M.D. D. N. Fedt, M.D.

The Watertown District Medical Society holds monthly dinner meetings on the first Tuesday of each month from September to June. In addition to the regular business meetings, the following programs were presented during the year.

April 4, 1967 — District discussion centered around government medical programs and especially regional medical programming and comprehensive health planning.

May 2, 1967 — Program presented by Dr. Alexander Wylie, Clinical Psychologist for the Lake Region Mental Health Center, giving a history of the Center and quoting numerous statistics. Also a brief discussion of coronary care units and the plans for establishment of same in Watertown by Dr. C. J. Clark.

May 29, 1967 — Special meeting for the purpose of instructions to delegates to the State Medical Association meeting.

September 5, 1967 — A discussion of the public relations program carried out by Dr. E. G. Huppler during the past year during which time 36 articles had appeared in the Watertown Public Opinion on a weekly basis covering a multitude of subjects.

November 7, 1967 — Official visitation of Dr. John Stransky, President of the State Medical Association and Richard Erickson, Executive Secretary and Bob Johnson, Field Man for the State Medical Association.

January, 1968 — Program presented by Jerome Kern from the Venereal Disease Control Office of the State Department of Health concerning identification and reporting of primary and secondary cases of syphilis.

March, 1968 — A complete discussion of the Tuberculosis Diagnostic and Evaluation Center established in Watertown by Dr. Tracy and Dr. Heinrichs.

Respectfully submitted,
G. Robert Bartron, M.D.
Councilor
Second District

The Committee has considered the report of the Councilor from the Second District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR THIRD DISTRICT

A summary of the years work of the Third District Medical Society would be as follows:

A meeting was held February 9, 1967 at Brookings and the scientific session was put on by Dr. R. K. Shaskey of Brookings.

On April 13, the meeting was at Madison and Dr. Irvin Belzer, the Tuberculosis Control Officer of the State Department of Health, gave a very interesting program.

We had a special meeting on August 1, at Brookings, called to honor the visit of the National A.M.A. President, Dr. Rouse and his wife, who happened to be in Brookings; this was a very fine affair.

We next met on August 10, at the Brookings Country Club, this meeting also being attended by the official visitation of our State Association President, Dr. John J. Stransky, and our Executive Secretary, Richard C. Erickson. Dr. Russell Orr of Sioux Falls presented the scientific program.

A meeting was held on October 12, at Brookings, and Dr. Francis McCabe presented the scientific program.

The next meeting was December 14, in the Flandreau Indian School Tea Room at Flandreau, and a very interesting program was presented by Dr. Robert H. Hayes of the University of South Dakota.

Election of officers for the next year also took place:

Dr. Robert Shaskey — President
Dr. H. J. Stensrud — Vice President
Dr. C. M. Kershner — Secretary-Treasurer
Drs. R. G. Belatti and Donald Scheller — Delegates
Drs. H. R. Wold and R. K. Arbon — Alternates
Drs. C. S. Roberts, Bruce Lushbough and R. G. Belatti, Censors.

February 15, 1968 was the date of the next meeting held in Madison where Dr. Martin Chipman of Sioux Falls, spoke on "Strokes — Their Manifestations and Treatment."

Respectfully submitted,
J. A. Muggly, M.D.
Councilor
Third District

The Committee reviewed the report of the Councilor from the Third District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR FOURTH DISTRICT

A meeting was held on May 4, 1967, at the Holiday Inn. The Head Start Program was discussed. It was decided that the examinations were to be performed by the private physician and he was to bill for his services. Following the business meeting, Dr. Van Demark gave a very interesting talk on leg injuries.

On December 1, 1967, the meeting was held at the Elks Club with the election of officers, the results of which are as follows:

President — E. H. Collins, M.D.
Vice President — R. C. Jahraus, M.D.
Secretary-Treasurer — J. T. Cowan, M.D.
Delegate — C. L. Swanson, M.D.
Alternate Delegate — S. W. Fox, M.D.
Censors — M. M. Morrissey, M.D., L. C. Askwig, M.D., C. L. Swanson, M.D.
District Utilization Committee — L. C. Askwig, M.D., R. J. Zakahi, M.D., and Barbara Spears, M.D.
Nominating Committee — C. L. Swanson, M.D.

Following the election of officers, the agenda for the upcoming Council Meeting was discussed and a report was given on the South Dakota Health Research Institute by the Councilor. The district voted not to go along with the resolution of dissolving the Crippled Childrens Program and also not to vote for the acceptance of National Boards in lieu of a Basic Science Board unless more controls of this exam can be reasonably assured.

On January 2, 1968, the meeting was held at the Elks Club with Dr. Stransky, Dick Erickson, and Robert Johnson as guests. Dr. Stransky discussed the problems of the State Medical Association and also answered questions on the South Dakota Health Research Institute. No other business was discussed.

Respectfully submitted,
A. J. Tieszen, M.D.
Councilor
Fourth District

The Committee considered the report of the Councilor from the Fourth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR FIFTH DISTRICT

The Huron District Medical Society met on September 14, 1967. The following guests were present: Dr. John Freeman, a prospective member; Dr. John J. Stransky, State President; and Mr. Richard C. Erickson, Executive Secretary. Communications were read concerning nurses' salaries. A proposal made by the Nursing Association was read. It was felt by the membership that the salaries at St. John's Hospital complied with the goal indicated therein. A telephone answering machine was discussed which was being promoted through the mail. Dr. Stransky, introduced by Mr. Richard C. Erickson, discussed a computer system which is being set up, and the changes which are being made. He also mentioned that Bob Johnson will visit each doctor in the State regarding Blue Shield to try to iron out any problems that we might have, and suggested that we all try to make a point to visit with him when he comes around. The President commended Mr. Erickson on his handling of the main office and also Blue Shield and Medicare. He discussed the possible changes that might occur in Medicare, and also talked a little bit about Title 19 implementation which is going into effect this year. He discussed the regional medical centers, which have not progressed to any extent at this time. South Dakota is combined with Nebraska on this project. Dr. Robert Hayes, formerly of Winner, is the present coordinator of the program. Dr. Stransky also mentioned comprehensive health planning, and recommended that we all get out and support our SoDaPac and AmPac. Mr. Erickson then made a few remarks. He described the $45,000 addition to the building in Sioux Falls and its use. A discussion of Medicare fees in South Dakota followed this discussion, and they seemed to be fair, as compared to the country as a whole. The meeting was adjourned.

The next meeting was December 1, 1967. The following guest was present, Dr. John Freeman. Dr.

Huet of Huron, was nominated for the presidency and a unanimous ballot was cast. Dr. Robert Bell was nominated for the vice-presidency and a unanimous ballot was cast. Dr. William Hanson was nominated for secretary-treasurer and a unanimous ballot was cast. Drs. Emil Hofer and Clifford Gryte were nominated for Board of Censors, and duly elected. Our guest, Dr. Hayes was introduced and spoke on regional centers for heart, stroke, and cancer. Dr. Hayes is coordinator for the South Dakota area. Following this discussion, which was very enlightening, during which he discussed community centers and also discussed the possibility of setting up an unconventional type of four-year medical school for South Dakota. Following this, Mr. Vince Montgomery discussed something about the sampling and use of a questionnaire, which recently was received by the various doctors in order to help evaluate the problems existing in South Dakota regarding cancer, heart, and stroke. The fact that there is no Physical Therapy school in North Dakota, South Dakota, or Nebraska was mentioned by Dr. Hayes also. A questionnaire that was to be sent out was discussed at length as to whether there were any questionable questions, as this is to be sent out to lay persons. Following this, Dr. Hayes showed some slides on his recent time spent in Viet Nam, and the meeting was duly adjourned.

There will be one more pre-State Convention meeting in April.

Respectfully submitted,
F. D. Leigh, M.D.
Councilor
Fifth District

The Committee considered the report of the Councilor from the Fifth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR SIXTH DISTRICT

During the past year, four meetings were held by the Sixth District Medical Society. During the business sessions of these meetings, three new members were elected to membership in the society — Dr. Loos of Chamberlain; Dr. J. O. Judge and Dr. R. R. Erdmann of Mitchell. The Society passed a motion to back the formation of a medical assistants society locally. A model diabetic detection program was discussed but no positive action was taken. The Headstart program was explained, spelling out the physician's role; the feasibility of Mitchell as a location for the 1969 State Medical Association meeting was discussed and lack of accommodations was cited as a major obstacle.

Guests to the meetings included four student preceptees at the late spring meeting. The State President, Dr. John Stransky of Watertown, and Richard Erickson, Executive Secretary, from Sioux Falls, also attended a meeting.

The Society heard reports on Medicare and Medicaid within the state, and the revision of the State Medical Association organization into six commissions. The proposed development of a Heart, Cancer, and Stroke Center in the State was discussed and an explanation of the Government Comprehensive Planning Program was given. The District heard a report on a new Blue Shield contract and the proposed addition to the State Medical Association building in Sioux Falls. A report was given on the court ruling denying the tax exempt status of this property.

The delegates elected for 1968 were Drs. J. O. Mabee and R. G. Gere of Mitchell. The alternates elected were Drs. J. L. Vose and R. Hockett of Mitchell.

Respectfully submitted,
Harvard Lewis, M.D.
Councilor
Sixth District

The Committee considered the report of the Councilor from the Sixth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR SEVENTH DISTRICT

The meetings of the Seventh District are held on the first Tuesday of each month except during June, July, and August.

The Board of Directors meets the night before the regular meeting. The actions of the Board are then submitted to the general meeting for approval or rejection. The meetings begin with dinner at the Westward Ho Country Club in Sioux Falls.

September 5

Applications of two men for membership and one transfer from out-of-State were read. Three men from the State Rehabilitation Department office recently established in Sioux Falls were introduced. An explanation of the structural organization and the responsibilities of the unit was given.

October 3

There was much discussion regarding ambulance service in Sioux Falls. The services of the ambulance committee of the society were again offered to the City Commission.

Mr. Witt and Mr. Olson from the investment department of a Sioux Falls bank presented an interesting and informative program on the new Keogh legislation.

November 7

The request of Dr. John Hoskins for military leave of absence was granted.

A discussion on the weaknesses of some portions of Professional Liability Insurance policies brought out some interesting facts regarding the lack of protection in some areas.

December 5

Dr. John Stransky, Watertown, president of the South Dakota State Medical Association, made the annual Presidential visitation to our Society. Dr. Stransky gave an interesting and informative report on the activities of the State Society over the past several months.

Mr. Richard Erickson, Executive Secretary of the Society, spoke on the building expansion project and explained the new full pay contract to be offered by Blue Shield.

The Nominating Committee presented the following slate of officers for the coming year:

President — Dr. Dorence Ensberg
Vice President — Dr. Bernard Begley
Secretary — Dr. John Gregg
Treasurer — Dr. Robert Giebink

These men were elected unanimously to the respective offices. Three men were elected to the Board of Directors. Seven delegates and seven alternates were also chosen.

January 2

Dr. L. J. Pankow, a past state president, has been a member of the Board of Directors for twenty-eight consecutive years. Dr. Pankow, by unanimous vote, was invited to attend Board meetings as an ex-officio, non-voting member to give to the Board the benefits of his wisdom, experience, and counsel in matters dealing with the profession.

Mr. Bill Peterson of the State University at Brookings held an interesting and informative discussion on farm accidents and made a plea for some method for doctors to report on farm accidents.

February 6

Transfer of two men to the Society, one from North Dakota and one from Michigan were read.

March 5

This was the annual dinner meeting with the woman's auxiliary. There was an excellent attendance and entertainment was provided by a musical group from the University of South Dakota. There was no business meeting.

April 2

The Society endorsed the AMA program of lectures in clinical nutrition. These lectures will be

conducted at Augustana College by a representative of the AMA Chicago office.

Respectfully submitted,
E. T. Lietzke, M.D.
Councilor
Seventh District

The Committee reviewed the report of the Councilor from the Seventh District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR EIGHTH DISTRICT

The officers at the beginning of the year were as follows:

President — Dagmar Glood, M.D.
Vice President — George Knabe, M.D.
Secretary — Lawrence Savage, M.D.
Treasurer — Morris L. Radack, M.D.

The following meetings were held:

May 27, 1967

The meeting was held at the Black Steer in Yankton, South Dakota. Dr. James K. Jackson, orthopedist, presented a number of interesting orthopedic problems in children and adults, especially regarding the lower extremities. A business meeting was held prior to the dinner.

October 5, 1967

The meeting was held at the Black Steer, Yankton. Dr. Horst G. Blume, neurosurgeon of Sioux City, Iowa, presented an interesting discussion of various types of traumatic neurosurgical problems, multiple examples of brain tumors and stereotactic neurosurgery. A business meeting was also held.

November 8, 1967

The meeting was held at The Prairie in Vermillion, S. D. Dr. Malcom E. Phelps, Vice President of the AMA and a MEND speaker gave a very interesting presentation concerning the medical situation in Vietnam. He had many slides to illustrate many of the points made about the treatment of battle casualties, as well as civilian personnel.

The following officers were elected for 1968:

President — George Knabe, M.D.
Vice President — Lawrence Savage, M.D.
Secretary — Morris Radack, M.D.
Treasurer — Lawrence Behan, M.D.

January 25, 1968

A program was presented on comprehensive health planning with a panel led by Dr. Robert Hayes. The panel also consisted of Dr. Stransky, State President, Dr. Johnson, Mr. Richard Erickson and Mr. Robert Johnson. Many aspects of Public Law 89-749 were brought to light and were discussed as they pertain to the future of medical practice and private medical practice. At the end of the program, Dr. Ted Wrage, secretary of SoDaPac gave a short talk explaining the purposes and goals of SoDaPac and encouraged the members to support this organization.

Respectfully submitted,
Clark Johnson, M.D.
Councilor
Eighth District

The Committee considered the report of the Councilor from the Eighth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR NINTH DISTRICT

The following is a resume of the Black Hills District Society meetings for the year 1967.

Five meetings were held throughout the year at various locations in the Black Hills area. The February 14th meeting of 1967 was held at the Arrowhead Country Club. The local business was directed primarily at preparatory plans for the State convention. There was also a discussion by Dr. Frost concerning changes in the local blood bank service. In lieu of a scientific meeting, a symposium on the Keogh Bill and estate planning was presented by Mr. William Kilroy, Trust Officer of the American National Bank, Rapid City, and Mr. Melvin Wedmore, Attorney at Law, Rapid City.

The second meeting of the District Society was held at the Veterans Administration Hospital in Hot Springs. This was a scientific meeting around the theme of "Emphysema and Cardiac Problems." The lecture was delivered by Dr. Henry Leveen of Brooklyn, New York, and was followed by a discussion by Dr. Merrill Musselman of Omaha, Nebraska. The business portion of the meeting was a continuation of the preparatory plans for the annual meeting to be held in June.

The 3rd meeting of the District was held at the Ellsworth AFB on Thursday, July 13th. The scientific portion of the program was a demonstration of the physiologic pressure chamber located at the Air Force Base. This was followed by a scientific presentation of three cases by members of the Ellsworth AFB Medical Staff around the central themes of 1. Cardiac Drugs, 2. Cosmetic Surgery, 3. Management of Amputation Digitis.

The 4th District Meeting was held on October 19th, at the Fort Meade Veterans Hospital. The scientific portion of the program was given by Dr. Bertrand Shiely, Professor of Psychiatry, University of Minnesota. He spoke on the topic "Diagnosis and Management of Depressing Disorders." The business portion of the meeting was devoted to an explanation of insurance coverage of Boeing employees which were coming into the area in rather large numbers. Mr. Robinson described the types of insurance coverage currently being underwritten by the Boeing Corporation. The remainder of the business meeting was devoted to local business matters including the Councilor's report and a discussion by Dr. Ruud on Regional Medical Planning and the feasibility of creating sub-regions in the five state area with regard to the Heart, Cancer, and Stroke program.

The December meeting of the District was held at the Arrowhead Country Club on December 12. The scientific portion of the meeting consisted of a round table discussion by Dr. Lampert and Dr. Elston concerning recently proposed legislation on the State and National level, and the relationship to the practice of medicine. Local business included a letter from the Boeing Corporation indicating that the Black Hills District Medical Society Grievance Committee would be a desirable committee to act on any disputed claims. The old minutes pertaining to past district discussions and actions regarding the relationships of M.D.'s and osteopaths were read. Dr. Slingsby moved that the osteopaths be charged the usual and customary fee for registration at the State Medical Association annual meetings. This motion was passed by a vote of 12 to 5. A continuation of the annual Black Hills Seminar was discussed. It was proposed that a ballot of the District membership be conducted regarding the continuation of this Seminar. The results will be reported in a subsequent report.

Respectfully submitted,
C. E. Tesar, M.D.
Councilor
Ninth District

The Committee considered the report of the Councilor from the Ninth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR TENTH DISTRICT

No report.

Respectfully submitted,
M. R. Cosand, M.D.
Councilor
Tenth District

The Reference Committee took notice of the "No Report" report submitted by the Tenth District.

REPORT OF THE COUNCILOR ELEVENTH DISTRICT

Our annual meeting was held in January at the Mobridge Country Club. Dr. Stransky, the Association president, was present. Election of officers was held. The following officers were elected for 1968:

President — Dr. Gus Torkildson
Secretary-Treasurer — B. P. Nolan, M.D.
Delegate — Jim Ryan, M.D.
Alternate — Leonard Linde, M.D.

Respectfully submitted,
Harold Lowe, M.D.
Councilor
Eleventh District

The Committee considered the report of the Councilor from the Eleventh District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCILOR TWELFTH DISTRICT

The District membership met four times during the year 1967-1968, in Webster, Milbank, Sisseton, and Rosholt. The speakers were Dr. Stransky at Milbank, Dr. Seaman at Sisseton, and Dr. Taylor at Rosholt.

Principal concern of the membership centered around the future supply of qualified physicians in the District. The district now has fifteen practicing physicians of which four are sixty-five or over.

Respectfully submitted,
Harry H. Brauer, M.D.
Councilor
Twelfth District

The Committee considered the report of the Councilor from the Twelfth District Medical Society and recommends the acceptance of this report.

REPORT OF THE COUNCIL

The quarterly meetings of the Council were held at Rapid City, Watertown, and Sioux Falls. All meetings were well attended by the Councilors, State Medical Association officers and chairmen of the various commissions. The minutes of the various meetings have all been published in the Journal of the South Dakota State Medical Association.

Respectfully submitted,
E. T. Lietzke, M.D.
Chairman of the Council

The Committee reviewed the report of the Council and found it satisfactory.

REPORT OF THE COMMISSION ON COMMUNICATIONS

The Commission met initially on December 9, 1967, and the minutes of this meeting were sent to the Council for their review. Members of the Commission on Communications staffed the booth at the State Fair at Huron in the first part of September of 1967. The last meeting of the Commission on Communications was held at Sioux Falls on March 9, 1968. The Commission on Communications received valuable assistance from Robert D. Johnson of the staff of the South Dakota State Medical Association in his capacity as public and professional relations director of the State Medical Association.

In its various meetings the Commission discussed the booth at the State Fair and it was concluded that we should have another booth at the next State Fair in 1968, preferably in a better location where there will be better exposure to the public. We will again obtain a display from the American Medical Association and will again try to have members of the Commission appear each day at the State Fair to help with the booth. Also it is felt that if possible some sophomores of the medical school should be given an opportunity to be present if they would desire to do so and add their weight to the exhibit. The Commission was not impressed with the effectiveness of the booth at the 1967 State Fair, but it was felt that it was a very worthwhile project and perhaps with a little better preparation a more successful result could be obtained at the 1968 booth. At least it was felt that another trial was indicated.

The Commission discussed the possibility of obtaining public service spots on radio and television and of using educational television networks at the University of South Dakota and the State University of South Dakota as outlets for public information programs, similar to the Minnesota State Medical Association's "Ask Your Doctor." It was also felt that the new American Medical Association film, "Horizons Unlimited" should be investigated. This is a film put out by the American Medical Association furthering careers in medicine. It was felt that if this were a satisfactory film possibly it could be rented or purchased and used in furthering careers in medicine in schools, high schools, etc., in the state. This would go along with the future physicians clubs program which has been introduced in the past, but has sort of petered out. It is felt that furthering careers in medicine is one of the duties of the Commission on Communications.

The coming Community Health Week, which is usually designated in September or the first of October was discussed. Last year we were too slow in getting started and not much publicity resulted, at least not as much as was hoped for. It was recommended at this time that just one editorial or one article be selected and be sent to each member of the Commission and the Commission member be responsible for contacting the district president to get his signature on the editorial or article and to also include a copy of the governors proclamation for Community Health Week, and a concentrated effort with a more personal nature be made to get the editor of the local newspaper to use the editorial in the paper during Community Health Week. This could be carried out for the larger cities in the State and Robert Johnson and the State Medical Association could put out a selected article or editorial to the smaller community paper.

Teenage alert project as carried out in Florida was discussed but no action was taken and it was felt that this was a very worthwhile project in contacting the teenagers in high school for such subjects as sex education, smoking, etc. But it was felt it was a little too big a project for the Commission at this time, or rather for the State Medical Association at this time. The Journal of the South Dakota State Medical Association was discussed with Dr. Robert Van Demark who is a member of the Commission.

It was recommended to the Council that the Council designate the members of the Commission on Communications (one from each district) to see that the papers are submitted to the "Journal" and thereby eliminate the editorial and publications committee and concentrate responsibility for obtaining publication materials on one individual in each district. It was also suggested that Dr. Van Demark set forth at least to the members of the Commission the procedures in obtaining papers for publication in the Journal from speakers at meetings or in getting permission to reprint articles of general interest.

The final recommendation by the Commission was relative to budgeting some money for the Commission on Communications to carry out its programs. Mr. Johnson, as public and professional relations director can only devote a limited amount of time to the Commission projects and it was recommended that an amount of money which will of necessity at first be small be set up in the budget so that the commission would have a source of funds to better carry out its public relations functions.

Respectfully submitted,
COMMISSION ON COMMUNICATIONS

Robert R. Giebink, M.D., Chr.
R. E. Van Demark, M.D.
John H. Hoskins, M.D.
Duane B. Reaney, M.D.
H. H. Theissen, M.D.
C. A. Johnson, M.D.
B. F. King, M.D.
B. O. Lindbloom, M.D.
L. K. Cowan, M.D.
H. H. Brauer, M.D.
D. L. Scheller, M.D.
C. C. Lardinois, M.D.

The Reference Committee considered the report of the Commission on Communications and recommends acceptance of this report.

REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

Members of this commission are:

G. Robert Bartron, M.D., Chairman
Courtney Anderson, M.D.
R. J. Bareis, M.D.
Clifford F. Binder, M.D.
Thomas Bunker, M.D.
Bill Church, M.D.
Robert J. Foley, M.D.
Richard G. Gere, M.D.
J. B. Gregg, M.D.
Richard W. Honke, M.D.
Charles E. Tesar, M.D.
Howard R. Wold, M.D.

A meeting of the Commission on Legislation and Governmental Relations was held on September 30, 1967, in the Oak Room of the Sheraton Cataract Hotel in Sioux Falls, S. D. The matters concerning possible legislative consideration and legislative proposals were discussed and consisted of the following: (1) Proposed change in the suicide law, (2) Consideration of introducing legislation to certify inhalation therapists, (3) Consideration of reintroduction of a hearing aid licensing law, (4) Proposed introduction of legislation establishing a treatment center for disturbed children.

Testimony was heard from several physicians relative to the above matters and it was decided that the Commission on Legislation and Governmental Relations would recommend changes in the suicide law, the adoption of an inhalation therapists certification law and would support any proper legislation regarding the hearing aid licensure. It was also decided that should any legislation be directed toward establishing a treatment center for disturbed children that the Commission would also recommend and support this type of legislation.

With regard to legalized abortion and any legislation submitted pertaining to this matter, it was felt that this Commission would recommend that the Association take no official stand on this matter but if legislation were submitted the Commission recommends that the directives and standards of the American Medical Association be adhered to on any proposed legislation.

The Commission was represented in the Legislature by your Chairman and also by Mr. Richard Erickson, Executive Secretary. During the legislative session the following bills had direct support and participation by the representatives of the Commission and Mr. Erickson.

Senate Bill #7 — establishes a Hearing Aid Dealers Licensing Board.

Senate Bill #25 — removes "implied warranty," under Commercial Code, of blood containing serum hepatitis.

Senate Bill #38 — amends present Suicide Law.

Senate Bill #45 — amends Basic Science Law.

Senate Bill #47 — prohibits the State Department of Public Instruction from expending state funds for out-of-state care of emotionally ill children.

Senate Bill #48 — prohibits the State Welfare Department from expending state funds for out-of-state care of emotionally ill children.

Senate Bill #49 — authorizes the State Commission on Mental Health to enter into contracts with professional personnel for the care of emotionally ill children.

Senate Bill #50 — authorizes the State Commission on Mental Health to lease, construct, or purchase facilities as residences to house and care for emotionally disturbed children.

Two bills that were introduced in the House of Representatives were also supported by the Commission and the Executive Secretary and they were bills relating to drugs. One was an act defining and relating to depressant, stimulant, hallucinogenic and other drugs and the second bill was an act defining and relating to narcotic drugs. Both were successfully passed.

The second meeting was held on the 9th of March in the Sheraton Cataract Hotel in Sioux Falls, at which time a summary of the 1968 legislative session was carried on and discussion of possible legislative matters for consideration at the 1969 session. There were no major legislative problems to be submitted for the 1969 session.

There was again a brief discussion regarding the abortion bill but the opinion of the Commission remained unchanged. There was some discussion about the possibility of extending the Good Samaritan Law to include all people rendering emergency first aid. It was felt a legal opinion should be obtained before considering such legislation.

It was recommended at the meeting of March 9th that the S. D. State Board of Medical and Osteopathic Examiners review and bring up to date the Medical Practice Law presently enacted in our state and this information was submitted to the Board of Examiners. There was also a presentation by Dr. Gregg suggesting the possibility of a licensing act involving the speech and hearing people.

Close contact with the Commission and representatives of the AMA who are knowledgeable about matters of national legislation has continued.

Respectfully submitted,
COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS
G. Robert Bartron, M.D., Chr.

The Reference Committee considered the report of the Commission on Legislation and Governmental Relations and recommends the acceptance of this report.

REPORT OF COMMISSION ON MEDICAL SERVICE

The Commission on Medical Service met for the first time on September 30, 1967, at the Cataract Hotel in Sioux Falls. It met again on March 2, 1968, and on each of these occasions there was an excellent attendance by the members of the Committee.

There were discussions and actions in the following items:

1. A recommendation was made that a member of this Commission be placed in charge of farm safety activities and rural health, and Bernard C. Gerber, M.D., was appointed Chairman of this Committee. He also subsequently joined the Farm Safety Committee; and at a subsequent Council meeting on the recommendation of this Committee, the State Medical Association became an organization member of the Farm Safety Council which headquarters out of the South Dakota State University at Brookings. In this same area, Dr. Richard Belatti was appointed Chairman of the Committee on Rural Health and will be serving in this capacity. The Chairman of this Commission attended the Rural Health Conference in Seattle, Washington, in March of this year and reported to the Chairman on Rural Health. This meeting was productive of several new thoughts, some of which may be applicable in South Dakota.

2. The Commission discussed at great length the necessity of a certification form for eye examination on driver's exams, and Dr. Tesar, who is a member of the Traffic Safety Committee, was advised by the Commission to get a recommendation from the Ophthalmology Society regarding their feelings in this matter. A survey was taken of the Ophthalmology Society with the ultimate recommendation as presented to the Council in a previous meeting that the Council would recommend to the Driver's Licensing Bureau in Pierre that eye examinations be handled on the same basis as other medical reports and that the reports be mailed directly to the state licensing office in Pierre.

The Commission also recommended at Dr. Curt Jahraus' suggestion that proposals from the Department of Motor Vehicles concerning prescription labeling at the present time should be left to the discretion of the physician but that no specific ruling should be pressed for or encouraged as of this time.

It was also the general feeling of this Commission that a reinvestigation of the physical form for the status of drivers on re-examination should be given some consideration.

On School Health and Immunization the Commission approved a motion to send a letter of commendation to Mr. John Jones, Director of the Vaccination Aid Program in Pierre, South Dakota, for his cooperation with the Medical Society in the field of immunization.

The Commission also recommended to the Council that a Communicable Disease Committee be formed with members being the consultants to the Venereal Disease Program, and the Vaccination Aid Program, and the Tuberculosis Program and that this Committee be a liaison between the State Health Department and the Medical Association. This recommendation was subsequently presented to the Council and was passed by the Council.

A revised form of the Guideline to the Immunizations to be used in South Dakota was also presented to the Council as recommended by the Commission on Medical Services and was passed by the Council.

The Commission also received a report from Philips Roxane measles vaccine from Dr. C. Kempy of the University of Colorado stating that this vaccine is perfectly safe and could be recommended for use in this state.

The Commission also recommended to the Council that a letter be sent to the Women's Auxiliary of the State Medical Association commending them for their work in venereal disease education. This was approved by the Council, and the letter was sent.

On both occasions of the meeting of this Commission, the Medical School Feasibility Study was presented in rather lengthy detail. The Chairman of this Commission attended a special meeting of the committee of the Minnesota State House and Senate on a hearing to discuss the need for and location of a second medical school in the state of Minnesota. The Dean of the Medical School also attended this meeting, and it proved profitable to learn the needs and problems of other states and particularly in reference to how they would be associated with ours. It appeared evident at this meeting that the University of Minnesota would like very much for a positive commitment from South Dakota as to the number of students they would anticipate sending there. It was the Dean's and the representative from the Medical Commission's stated feelings that this was an impossibility at the present time since the feasibility study was underway. The commission did approve a feasibility study as presented by Dr. Bob Hayes and supported by the American Academy of General Practitioners providing that this study be considered as only one of the possible studies that could be presented and that the Medical Society be in no way bound or committed to any findings of this study. With this recommendation it was presented to the Council, and the Council passed this recommendation and became the sponsoring body for the feasibility study which is now to be presented by Dr. Hayes to the American Academy of General Practitioners.

5. Dr. Heinrichs met with this Commission and presented a resolution to the Crippled Children's Program sponsored by the Pediatric Society, and the Council then approved this but advised a detailed study be done and referred the matter back to the Commission on Medical Services for a detailed study of the structure, purpose, and benefit of the Crippled Children's Program as it is now operational in South Dakota with not only the objections to the present form but also recommendations for any new approach to this problem.

The Pediatric Society also presented a resolution on mental retardation. This received lengthy discussion from the Commission on Medical Services and likewise received its approval and recommendation for passage to the Council.

There are many objectives still to be accomplished in the Commission on Medical Services, and committees have been appointed to study the various problems which are still presenting themselves to the Commission.

Respectfully submitted,
COMMISSION ON MEDICAL SERVICE
G. E. Tracy, M.D., Chairman
W. B. Odland, M.D.
B. C. Gerber, M.D.
W. R. Taylor, M.D.
T. H. Willcockson, M.D.
L. H. Amundson, M.D.
Warren Jones, M.D.
D. W. Weatherill, M.D.
F. R. Williams, M.D.
R. C. Jahraus, M.D.
A. M. Semones, M.D.
T. J. Wrage, M.D.

The Committee considered the report of the Commission on Medical Service and recommends acceptance of the report.

REPORT OF THE COMMISSION ON SCIENTIFIC MEDICINE

Meetings were held on September 30, 1967, and March 9, 1968, at the Sheraton Cataract Hotel in Sioux Falls, South Dakota.

1. Tuberculosis Control: The commission met with Dr. Irvin S. Belzer, U. S. Public Health Service Tuberculosis Control Officer of the South Dakota State Health Department. The commission has recommended to the Council that letters be sent to each medical district in the state informing them that tuberculosis diagnostic centers in Rapid City, Watertown, and Sioux Falls, are prepared to present a program on tuberculosis information at each district meeting. We feel that the districts should be encouraged to utilize these informational programs. Dr. H. Streeter Shining was recommended as a medical consultant to the state tuberculosis control program when Dr. Belzer leaves his post as State Tuberculosis Control Officer. A proposed workshop on tuberculosis control as well as vaccination and V.D. procedures were tentatively proposed for the 1969 annual Medical Association meeting. It is also proposed that we provide a national speaker on tuberculosis control at the 1969 annual meeting. The commission has requested permission from the Council to send a statement from the Commission on Scientific Medicine to all members of the State Medical Association calling each physicians attention to the fact that there is sufficient evidence to warrant the use of INH Prophylaxis for the prevention of active tuberculosis in all people who have positive tuberculin skin tests and no previous antimicrobial treatment. The statement will be prepared by Dr. Belzer and with the Council's permission, the statement will be distributed with appropriate pamphlets to each physician.

2. Mental Health and Mental Retardation: There were no new developments in these areas and nothing that required Council action during the preceding year.

3. Diabetes: Diabetes Detection Drives were considered again this year and action was left to each local medical district as this had been proposed to them on the district level one year ago.

4. Heart, Cancer and Stroke Program: The commission has not been directly involved in the Heart, Cancer and Stroke Program activities. A physician, Dr. Robert H. Hayes, is coordinator of the South Dakota program and there were no recommendations brought to the Council or made by the Council in this area.

Annual Meeting: The format for the annual meeting to be held in Aberdeen May 18-21, 1968, has necessarily been changed due to lack of space facilities. It will be impossible to provide the workshops we have had in the past years although it is planned to resume these in the 1969 format. Attempts have been made to use regional and local speakers when possible and a program with maximum appeal to the

physician in general practice has been proposed and planned. The scientific presentations will be held all day Monday and Tuesday morning. Specialty groups will be free to use Tuesday afternoon for their own meetings.

Respectfully submitted,
COMMISSION ON SCIENTIFIC MEDICINE
Bruce Lushbough, M.D., Chr.
H. Streeter Shining, M.D.
James C. Larson, M.D.
H. Phil Gross, M.D.
Robert Nelson, M.D.
A. C. Vogele, M.D.
R. B. Leander, M.D.
E. H. Heinrichs, M.D.
Clark Johnson, M.D.
Noel deDianous, M.D.
Judson O. Mabee, M.D.

The Reference Committee considered the report of the Commission on Scientific Medicine and recommends the acceptance of this report.

REPORT OF THE COMMISSION ON INTERNAL AFFAIRS

The Commission on Internal Affairs met on September 30, 1967, and again on March 9, 1968.

It should be noted that the attendance record of this commission is not good. During the course of the two meetings, rather severe attention was directed towards conserving the budget. The budget and audit were examined both times and found to be in order. Recommendations were made in regard to curtailment of the present budget and it would be hoped that by implementing some of these, a dues increase can be averted for the present time and a balanced budget be maintained.

At the March, 1968, meeting extended discussion was given to possible separation of the Medical Society Executive Secretaryship from the Medical Services Secretaryship. After a rather extensive, revealing discussion, it was the considered opinion of the commission that the Executive Secretary of the Medical Society and the Executive Secretary of the Medical Service, Inc., should be one and the same person.

Notice is taken of the deaths of three members during the past year:

J. E. Studenberg, M.D., Winner, South Dakota
died in October, 1967
A. P. Scheib, M.D., Watertown, South Dakota
died in May, 1967
E. E. Greenough, M.D., Sioux Falls, South Dakota
died in December, 1967

It is the commission's recommendation that no further money is to be placed in the Benevolent Fund and utilization of these monies be taken after consultation with the Medical Auxiliary. A special committee has also been appointed within the Internal Affairs Commission to study and make recommendation as to the future uses for these funds now held by the Benevolent Fund.

The following budget has been approved by the Budget Committee for the year 1968-1969:

South Dakota State Medical Association

INCOME

ITEM	Budgeted 1967-68	Proposed 1968-69
State Dues	$48,000.00	$48,000.00
Annual Meeting	9,000.00	9,000.00
Refunds & Misc.	1,000.00	1,000.00
Interest	400.00	500.00
Car Reimbursement	1,140.00	1,200.00
Salary Reimbursement		1,140.00
	$59,540.00	$60,840.00

EXPENDITURES

ITEM	Budgeted 1967-68	Proposed 1968-69
Salary — Executive	$ 6,600.00	$ 6,600.00
Salary — Other	11,100.00	12,000.00
Social Security	600.00	750.00
Legal & Audit	2,600.00	2,600.00
Tele. & Telegraph	2,000.00	2,000.00
Office Supplies	2,200.00	2,100.00
Dues & Subscriptions	1,400.00	1,000.00
Physicians Travel	4,300.00	4,000.00
Annual Meeting	8,500.00	8,500.00
Public Relations	3,000.00	3,200.00
Rent	3,000.00	3,000.00
Miscellaneous	100.00	50.00
Postage	2,200.00	2,200.00
Legislative Expense	$ 1,000,00	$ 2,000.00
Medical School Endow.	200.00	200.00
Car Expense	2,100.00	2,200.00
Clinical Pathology	600.00	200.00
Staff Travel	4,500.00	4,500.00
Insurance	100.00	100.00
Employ. Tax	100.00	50.00
Employ. Relations	1,600.00	1,600.00
Benevolent Fund*	400.00	———
Ladies Auxiliary**	800.00	———
Taxes		300.00
Total	$59,000.00	$59,150.00
Reserve	540.00	1,690.00
Grand Total	$59,540.00	$60,840.00

*Eliminated
**Transferred to Journal

JOURNAL INCOME

ITEM	Budgeted 1967-68	Proposed 1968-69
Advertising	$18,500.00	$23,000.00
Subscriptions	1,200.00	800.00
Miscellaneous	600.00	600.00
Refunds	800.00	800.00
	$21,100.00	$25,200.00

EXPENSES

ITEM	Budgeted 1967-68	Proposed 1968-69
Salary, Editor	$ 720.00	$ 720.00
Salary, Staff	2,400.00	3,300.00
Legal & Audit	50.00	50.00
Rent	300.00	300.00
Telephone & Telegraph	250.00	200.00
Social Security	110.00	55.00
Office Supplies	16,870.00	19,000.00
Postage	300.00	300.00
Travel	100.00	500.00
Auxiliary Newsletter		700.00
Employee Relations		75.00
	$21,100.00	$25,200.00

BUILDING FUND INCOME

ITEM	Budgeted 1967-68	Proposed 1968-69
Blue Shield Rent	$15,996.00	$28,800.00
Association Rent	3,000.00	3,000.00
Journal Rent	300.00	300.00
Board of Exam. Rent	600.00	600.00
	$19,896.00	$32,700.00

BUILDING FUND EXPENSES

ITEM	Budgeted 1967-68	Proposed 1968-69
Janitor & Repair	$ 3,700.00	$ 5,000.00
Utilities	3,000.00	5,000.00
Interest	3,396.00	4,500.00
Repayment of Loans	5,300.00	6,480.00
Legal & Audit	1,000.00	2,000.00
Taxes & Insurance	3,500.00	5,000.00
	$19,896.00	$27,980.00
Reserve		4,720.00
		$32,700.00

The Benevolent Fund Financial Report is as follows:
March 1, 1967 - February 23, 1968

Balance in Bank March 1, 1967		$8,120.24
INCOME		
Interest	$236.08	
Loans	510.00	
Donations	766.00	
TOTAL INCOME	$1,512.08	1,512.08
		$9,632.32
EXPENDITURES		
None		
Balance in Bank February 23, 1968		$9,632.32
Assets of this Fund are as follows:		
Government Bonds	$ 3,000.00	
Loans (15)	5,960.00	
Cash in Bank	9,632.32	
Total Assets	$18,592.32	

Respectfully submitted,
COMMISSION ON INTERNAL AFFAIRS
B. J. Begley, M.D., Chr.
C. Rodney Stoltz, M.D.
Richard G. Belatti, M.D.
Edward A. Pasek, M.D.
E. J. Moore, M.D.
B. T. Lenz, M.D.
George Angelos, M.D.
Richard Hockett, M.D.
H. J. Stensrud, M.D.
Saul Friefeld, M.D.
C. L. Behrens, M.D.
William Hanson, M.D.

The Committee considered the report of the Commission on Internal Affairs and recommends the acceptance of this report.

REPORT OF THE GRIEVANCE COMMITTEE

The Grievance Committee met per letter and telephone (frequently) throughout the year. We were asked to review three (3) cases of grievances of patients against doctors and two (2) cases of insurance companies against doctors.

One case was one of an informed consent type and great care and lengthy investigation was followed in handing down a decision. In this case the grievance against the doctor was not upheld but the doctor and the hospital were admonished to be particularly careful in gaining surgical consent from older patients. We feel that all of our physicians should be forewarned by this particular case.

The cases of the insurance companies against the doctors were studied at length and decisions were made which would support the companies in the idea that they can only be asked to pay a reasonable fee. Again, this report should emphasize that we are being asked to make decisions regarding charging abuses. We do not plan to defend deliberate overcharging and feel that we must police our own ranks rather than have someone else do this.

Respectfully submitted,
Robert H. Hayes, M.D.
Chairman
GRIEVANCE COMMITTEE

The Reference Committee considered the report of the Grievance Committee and recommends the acceptance of this report.

REPORT OF THE STATE UTILIZATION AND INSURANCE REVIEW COMMITTEE

The State Utilization and Insurance Review Committee is charged with two responsibilities: (1) setting up the guidelines and rules for the effective functioning of hospital and district utilization committees and (2) review of those insurance claims (including Medicare and Blue Shield) which have been questioned by the insurance carrier.

There has been very little utilization activity on the part of your State Committee because of the very dedicated and efficient functioning of the utilization committees of the hospitals of the state and the district committees. These local committees have accepted rather thankless assignments in good grace and have done a splendid job.

Through the office of your State Association, some forty claims have been submitted for review by the State Committee. Each of these claims has been sent to the individual committee members for his appraisal and from these individual appraisals a concensus recommendation for the settlement of the claim has been made. In some twenty per cent of these claims the questioned fee has been sustained by the State Committee. In the remainder of the cases, adjustments in fee have been recommended which have been accepted (we hope graciously) by the claimants.

There was a meeting in the Association offices of the membership of the State Committee on December 6, 1967. At that meeting some of the problems discussed were:

1. Observance of post operative days included in surgical fee schedule.
2. Surgical assistants fees.
3. Charges for hospital admission in addition to surgical fee.
4. Disallowance of complete work-ups in office and hospital within one week.
5. Re-admissions for the same condition.
6. Fees for detention of physician.
7. Special reports.
8. Over-utilization of laboratory, x-ray, etc.
9. Anesthesiologist consultations.
10. Excessive surgical fees.

The main basis for question of claims stems from failure of the reporting physician to code his services according to the listings in the Relative Value Study. The Relative Value Study and the unit values for each procedure have been accepted by the insurance carriers as the basis for compensation and it is only through close observance of these listings that question of fees by the carrier can be avoided. It is the recommendation of your State Utilization and Insurance Review Committee that all claims be submitted with listings exactly as they appear in the Relative Value Study.

Respectfully submitted,
UTILIZATION AND INSURANCE REVIEW COMMITTEE
H. R. Wold, M.D., Chairman
C. B. McVay, M.D.
H. R. Lewis, M.D.
E. W. Sanderson, M.D.
E. S. Palmerton, M.D.
Roscoe Dean, M.D.

The Reference Committee considered the report of the State Utilization and Insurance Review Committee. The Committee recommends the acceptance of this report with emphasis being given to the recommendation that all claims be submitted with listings exactly as they appear in the Relative Value Study.

MINUTES OF SOUTH DAKOTA MEDICAL SERVICE, INC. BOARD OF DIRECTORS MEETING

Holiday Inn, Aberdeen, South Dakota
10:00 a.m., May 19, 1968

The meeting was called to order by H. Russell Brown, M.D., President, at 10:00 o'clock a.m.

Those present for roll call were:

H. Russell Brown, M.D.
John Elston, M.D.
C. J. McDonald, M.D.
T. H. Sattler, M.D.
James Gormley
G. L. Hill
Jesse Olson
B. F. King, M.D.

Also present at the meeting were:
Richard E. Erickson, Executive-Director,
Randall Tuffs, Assistant Director,

Robert Green, Director of Internal Operations,
Robert Johnson
John H. Zimmer, Attorney

Absent and not voting:
D. H. Breit, M.D.
P. H. Hohm, M.D.
E. A. Johnson, M.D.

A quorum was declared present for the purpose of transacting the business of the Corporation.

Director Hill moved to dispense with the reading of the minutes of the last South Dakota Medical Service, Inc. meeting. Director McDonald seconded the motion. The President called for a vote thereon and the same carried unanimously.

President Brown called for consideration of the financial report. Bob Green discussed the financial report. Mr. Green explained that the increase costs in the last several months resulted from inauguration of certain employee benefit programs. Mr. Erickson reported that while there is cash available for investment, it is necessary to hold the same to have reserve to purchase land discussed at the last meeting. Director Hill reported on the Rushmore Stock and the sale thereof pursuant to a resolution of the Board of Directors. Director Hill reported that $783.12 would be forthcoming from the sale of stock originally in Rushmore Credit.

Director Hill moved that the Board authorize the sale of Life Investors of Nebraska stock consisting of 179 shares @ 4⅜ without commission to be sold through the First Nebraska Securities and that the sale thereof as set forth herein be approved. Director Olson seconded the motion. The President called for a vote thereon and the same carried unanimously.

President Brown called for consideration of items under Old Business. Mr. Erickson discussed the new building lease for the addition just occupied. Mr. Erickson reported that the new lease had been approved by Medicare.

Mr. Erickson informed the Board that Medicare authorized the release of information to Senator Mundt, of the South Dakota Medicare Program. Mr. Erickson reported that a comparison was sent to Senator Karl Mundt showing the eighteen months physician charges to Blue Shield in comparison with Medicare. Mr. Erickson reported that there was no significant increase in fees during such period.

Director King moved that each member of the Board be sent a copy of the statistical data provided to Senator Mundt to be kept by the Board as a confidential item. The motion was seconded by Director McDonald. The President called for a vote thereon and the same carried unanimously.

President Brown called for consideration of items of the agenda under New Business. The first item being election of officers. Dr. Brown related that the president and vice-president having served three years in such capacities could no longer be elected to the same office. Director McDonald nominated Dr. King, for president; the motion was seconded by Director Elston; Director Hill moved that nominations cease and the secretary be instructed to cast a unanimous ballot for Dr. King. The motion was seconded by Director Gormley. Dr. Brown called for a vote thereon and the same carried unanimously.

The president called for nomination for vice-president. Director Gormley nominated Dr. Sattler, the motion was seconded by Director McDonald. Director Hill moved the nominations cease and the secretary be instructed to cast a unanimous ballot for Dr. Sattler. The motion was seconded by Director Elston. The president called for a vote thereon and the same carried unanimously.

The president called for nomination of Secretary-Treasurer. Director Gormley nominated Richard C. Erickson. The motion was seconded by Director Elston. Director Sattler moved that nominations cease, and that a unanimous ballot be cast for Mr. Erickson; the motion was seconded by Director Olson. The president called for a vote thereon and the same carried unanimously.

Mr. Tuffs reported on changes in Comp. 65 policies. The changes were increase of benefits thereunder. Emergency treatment for accidental injuries are now phrased to eliminate the 'within 72 hours of the accident' under the new provision. Payment would be made for emergency care without any 72 hour limitation. After review of Comp. 65 policy changes as set forth in their policy submitted to the Board, Director Gormley moved the improvement of the policy effective immediately; Director King seconded the motion. The president called for a vote thereon and the same carried unanimously.

Director Gormley moved that all claims for self administered medical care of doctors be denied. Director Sattler seconded the motion, that no legal claim exists. The president called for a vote thereon and the same carried unanimously.

The following Resolution was introduced by Director Gormley:

> "That Whereas, the Board of Directors passed a Resolution on the 14th day of July, 1966, providing for a procedure for fair hearings on an agreement between the Secretary of Health, Education and Welfare and South Dakota Medical Service, Inc., No. SSA-66-028-2 relative to supplemental medical insurance benefits, and
>
> "Whereas, procedures and rules have now been set forth in the Federal Registry, Volume 32, No. 243, dated December 16, 1967, relative to the conduct of fair hearings under the Contract of South Dakota Medical Service, Inc., previously referred to,
>
> "THEREFORE, BE IT RESOLVED that the Resolution previously referred to and adopted on the 14th day of July, 1966, is hereby repealed and in lieu thereof the Rules and Regulations for Fair Hearings as set forth in the Federal Registry previously referred and all present and future amendments thereto are hereby adopted and the Executive-Director of South Dakota Medical Service, Inc. is hereby designated as the appropriate official of this corporation to either act as hearing officer or designate another to act in his stead."

The foregoing Resolution was seconded by Director McDonald. The roll call vote thereon was as follows:

Yeas:
H. Russell Brown, M.D.
John Elston, M.D.
C. J. McDonald, M.D.
T. H. Sattler, M.D.
James Gormley
G. L. Hill
Jesse Olson
B. F. King, M.D.

Nays: None

Absent and not voting:
D. H. Breit, M.D.
P. H. Hohm, M.D.
E. A. Johnson, M.D.

The president declared the said Resolution duly passed and ordered the Resolution spread upon the books of the Corporation.

Director Elston moved that the Board officially recognize the services of Dr. Brown as president for three years and thank him on behalf of the Board therefor. The motion was seconded by Director McDonald, and the same passed unanimously.

Director Gormley moved adjournment; the motion was seconded by Director Elston, and on roll call vote the same passed unanimously.

Richard C. Erickson
Secretary-Treasurer

CORPORATE BODY MINUTES
SOUTH DAKOTA MEDICAL SERVICE, INC.
Holiday Inn, Aberdeen, South Dakota
May 18, 1968

The meeting was called to order by H. Russell Brown, M.D., President at 2:15 p.m., Saturday, May 18.

Present for roll call were the following members: Doctors Stransky, Elston, Quinn, Reding, Hayes, Perry, Bartron, Muggly, Lewis, Lietzke, Johnson, Tesar, Lowe, Brauer, Rosa, Murdy, Tracy, Auskaps, Belatti, Scheller, Swanson, Lardinois, Huet, Mabee, Gere, Ensberg, Begley, Gregg, Giebink, Pasek, Aspaas, Wegner, Sweeney, Knabe, Lyso, Behan, Kovarik, Carson, Shining, Ryan and Keller.

A quorum was declared present.

Also present were Richard Erickson, Randall Tuffs, Robert Green and John Zimmer.

Dr. Perry moved to dispense with the reading of the minutes of the last Corporate Body meeting. The motion was seconded by Dr. Rosa and carried.

Dr. Bartron moved that the Annual Report of Blue Shield for the calendar year 1967 be approved as published. The motion was seconded by Dr. Tracy. The question was called, and the motion carried.

Dr. Perry moved that the members approve the Annual Report of CHAMPUS (ODMC). The motion was seconded by Dr. Rosa, a vote was called, and the motion carried.

Dr. Tracy moved to accept the Annual Report for Medicare. The motion was seconded by Dr. Auskaps, a vote was called and the motion carried.

Dr. Tracy moved that the members approve the Annual Report for the State Welfare Programs. The motion was seconded by Dr. Muggly, a vote called for and the motion carried.

Dr. Brown expressed his appreciation to the members of the Corporate Body and the Board of Directors for the cooperation given him during his tenure as President. He reviewed the programs handled by South Dakota Medical Service, Incorporated and discussed the progress of the past few years.

The report of the Nominating Committee was read by Dr. Brown and the following individuals were nominated to serve on the Blue Shield Board of Directors:

H. Russell Brown, M.D.	3 years
C. J. McDonald, M.D.	3 years
G. L. Hill	3 years
James Gormley	3 years
Donald Howe	2 years

Dr. Belatti moved that a unanimous ballot be cast for the above named nominees. Dr. Muggly seconded the motion and the question was called. The motion carried unanimously and the five nominees were elected to the Board of Directors of South Dakota Medical Service, Inc.

Dr. Perry moved that the members approve the report on Blue Shield's Full Payment of Benefits contract. The motion was seconded by Dr. Rosa, a vote was taken and the motion carried.

Dr. Brown reviewed the status of the Medicare contract for the members' information.

Dr. Bartron moved that the meeting be adjourned. The motion was seconded by Dr. Swanson, a vote was taken, and the motion carried.

Vacation trip....

Motion sickness?

This time it'll be different. Emetrol taken before the trip begins will usually prevent nausea and vomiting. Emetrol is effective and safe...most helpful where safety is most important. It acts locally—not systemically.

ROERER
WILLIAM H. RORER, INC.
Fort Washington, Pa.

Emetrol®
phosphorated carbohydrate solution
emesis control

SOUTH DAKOTA MEDICAL SERVICE, INC.
BALANCE SHEET
DECEMBER 31, 1967

ASSETS

Ledger Assets:	
Cash on hand and in bank	$164,921.56
Acc'ts receivable — Federal Program	7,957.78
Acc'ts receivable — Medical Assistance Program	25,000.00
Acc'ts receivable — N. W. Bell Telephone Co.	3,933.13
Savings Certificates:	
Farmers & Merchants Bank, Aberdeen, S. D.	15,000.00
First National Bank, Sioux Falls, S. D.	15,000.00
Western State Bank, Sioux Falls, S. D.	15,000.00
American National Bank, Rapid City, S. D.	15,000.00
Northwestern National Bank, Sioux Falls, S. D.	10,000.00
Citizens Bank, Mobridge, S. D.	15,000.00
Security Bank, Webster, S. D.	15,000.00
Farmers & Merchants Bank, Watertown, S. D.	15,000.00
American State Bank, Yankton, S. D.	15,000.00
First National Bank, Brookings, S. D.	15,000.00
Commercial Trust & Savings Bank, Mitchell, S. D.	10,000.00
Farmers & Merchants Bank, Huron, S. D.	10,000.00
Citizens State Bank, Clark, S. D.	15,000.00
Ipswich State Bank, Ipswich, S. D.	15,000.00
First National Bank of the Black Hills, Rapid City, S. D.	15,000.00
Custer County Bank, Custer, S. D.	15,000.00
Rushmore State Bank, Rapid City, S. D.	15,000.00
First Federal Savings & Loan, Huron, S. D.	5,000.00
Home Federal Savings & Loan, Sioux Falls, S. D.	5,000.00
First Federal Savings & Loan, Watertown, S. D.	10,000.00
U. S. Government Treasury Bond	10,000.00
U. S. Government Treasury Bond	30,000.00
U. S. Government Treasury Note	30,000.00
Mortgage Loan — S. D. Medical Ass'n	74,591.60
Total Ledger Assets	**$606,404.07**

LIABILITIES AND RESERVES

Liabilities:	
Accrued State of South Dakota premium tax payable	$ 7,162.12
Withholding tax & Social Security tax payable	1,633.31
Accounts payable — Federal Program	11,000.00
Accounts payable — N. W. Bell Telephone Co.	2,815.00
Total Liabilities	**$ 22,610.43**
Deferred Income:	
Unearned subscriber dues	$ 58,096.74
Reserves:	
Estimated claims not reported	$180,000.00
Equalization of Complementary 65 Program	35,000.00
Total Reserves	**$215,000.00**
Surplus — Unassigned	**$310,696.90**
Total Liabilities and Reserves	**$606,404.07**

STATEMENT OF INCOME AND EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 1967

Receipts:	
Earned subscription income	$1,445,561.96
Interest earned	15,687.82
	$1,461,249.78
Medical and Surgical Claim Expenses:	
Participating physicians	$ 658,259.58
Non-participating physicians	357,082.49
	$1,015,342.07
Operating Expenses:	
Salaries	$ 178,994.62
Travel expense	13,141.29
Rent	15,713.00
Board meeting expense	4,452.22
Boards, bureaus and associations	5,044.89
Legal expense	7,123.28
Printing and stationery	9,889.30
Books, newspapers and periodicals	269.55
Postage	15,470.40
Telephone and telegraph	7,620.79
Advertising	9,599.06
Insurance	1,013.60
Employee relations	10,136.16
Auditing, actuarial and consulting	996.71
Outside service agencies	55,828.59
Miscellaneous expense	14.54
Social Security tax expense	7,099.95
Taxes, licenses and fees	7,189.95
Other taxes	2,163.98
Furniture and equipment expense	234.89
Office supplies	15,930.62
Payment to Blue Cross	98,746.36
Equipment rental	6,270.29
Depreciation	3,465.98
	$ 476,410.02
Less reimbursements	259,296.32
Net Operating Expenses	**$ 217,113.70**
Total expenses and claim payments	$1,232,455.77
Net Operating Income	**$ 228,794.01**
Other Charges or Credits:	
Estimated reserve for unreported services	52,000.00
Net Gain to Surplus — Unassigned	**$ 176,794.01**

OFFICE FOR DEPENDENTS MEDICAL CARE

DATE	CLAIM COST	ADMIN. COST	TOTAL	% ADM. COST
April 1967	No Payment	$ 701.29	$ 701.29	
May	$14,798.37	668.01	15,466.38	4.4%
June	6,305.49	691.66	7,007.15	9.9%
July	4,329.35	553.45	4,882.80	8.8%
August	—	679.42	679.42	—
September	12,150.90	717.51	12,868.41	5.9%
October	7,958.84	850.79	8,809.63	10.7%
November	6,406.73	911.82	7,318.55	14.2%
December	27.58	789.27	816.85	0.0%
January 1968	14,572.82	883.28	15,456.10	5.7%
February	8,526.59	793.09	9,319.68	8.5%
TOTAL	$75,086.67	$8,259.59	$83,346.26	9.90%

MEDICARE
TITLE XVIII PART B

	DECEMBER		YEAR TO DATE	
INCOME	**1967**	**1966**	**1967**	**1966**
A. Claims Income	$250,000.00	$133,750.00	$3,449,500.00	$513,950.00
B. Administration Income	—0—	12,000.00	177,180.00	54,600.00
TOTAL INCOME	$250,000.00	$145,750.00	$3,626,680.00	$568,550.00
EXPENSE				
A. Claims Expense	$217,693.62	$155,700.52	$3,397,689.75	$536,352.97
B. Administration Expense	22,795.34	12,265.88	229,774.89	58,035.95
TOTAL EXPENSE	$240,488.96	$167,966.40	$3,627,464.64	$594,388.92
% of Adm. Expense To Claims Expense	10.5%	7.9%	6.8%	10.8%
ADMINISTRATIVE EXPENSE				
Salaries	$ 10,266.68	$ 6,866.97	$ 118,558.97	$ 30,029.36
Travel	554.72	368.02	3,414.56	737.51
Rent	938.42	500.00	11,076.72	3,160.00
Boards & Bureaus	201.03	—0—	2,466.70	—0—
Legal Expense	15.45	320.47	1,829.59	1,667.36
Furniture	206.23	78.30	1,907.90	327.30
Equipment Rental	599.21	180.00	4,623.15	1,058.90
Printing	61.48	1,057.42	5,803.88	8,265.71
Office Supplies	8.90	243.97	7,680.45	3,467.90
Periodicals	—0—	298.25	23.40	33.85
Postage	684.48	627.44	9,031.72	1,877.14
Telephone	366.55	—0—	4,520.32	2,203.66
Wire System	12.81	—0—	27.25	—0—
Insurance	—0—	—0—	650.19	—0—
Employee Benefits	287.46	374.22	4,996.68	900.39
Auditing	—0—	—0—	69.53	—0—
Service Agencies	8,002.06	1,115.37	43,327.78	2,215.74
Social Security	439.89	235.45	4,892.06	1,118.59
Board Meeting	—0—	—0—	—0—	372.00
Miscellaneous	—0—	—0—	25.00	594.41
Other Taxes	149.96	—0—	1,891.92	596.13
Add. Expenses due to Quarterly Cost Allocation	—0—	—0—	2,557.56	—0—
NET OPERATING EXPENSE	$ 22,795.34	$ 12,265.88	$ 229,774.89	$ 58,035.95

STATE WELFARE PROGRAM
TITLE XVIII

	DECEMBER		YEAR TO DATE	
INCOME	**1967**	**1966**	**1967**	**1966**
A. Claims Income	$ 14,493.59	$20,481.95	$311,444.52	$54,764.23
B. Administration Income	(20.80)	2,222.68	20,835.90	2,392.37
TOTAL INCOME	$ 14,472.79	$22,704.62	$332,280.42	$57,156.60
EXPENSE				
A. Claims Expense	$ 14,542.59	$21,418.94	$298,135.87	$67,749.56
B. Administrative Expense	1,139.74	1,152.12	23,035.25	5,424.39
TOTAL EXPENSE	$ 15,682.33	$22,571.06	$321,171.12	$73,173.95
% of Adm. Expense To Claims Expense	7.8%	5.4%	7.7%	8.0%
ADMINISTRATIVE EXPENSE				
Salaries	$ 656.60	$ 709.60	$ 12,074.95	$ 2,990.20
Travel	3.81	—0—	512.78	10.00
Rent	13.60	150.00	691.03	450.00
Boards, Bureaus & Assn.	—0—	—0—	—0—	—0—
Legal Expense	—0—	—0—	—0—	—0—
Furniture	9.47	13.55	321.51	33.55
Equipment Rental	20.07	10.00	202.99	45.00
Printing & Stationery	—0—	—0—	80.27	37.30
Office Supplies	—0—	12.80	921.75	567.28
Books, Periodicals	—0—	—0—	—0—	—0—
Postage	62.54	61.72	1,209.95	216.97
Telephone	65.72	14.00	631.53	93.31
Wire System	—0—	—0—	—0—	—0—
Insurance	—0—	—0—	18.85	—0—
Employee Relations	13.09	20.00	545.74	66.00
Auditing	—0—	—0—	46.35	—0—
Pay to Service Agencies	256.10	135.22	4,857.71	801.57
Social Security	28.89	25.23	507.28	100.71
Board Meeting	—0—	—0—	—0—	—0—
Miscellaneous	—0—	—0—	27.12	—0—
Other taxes	9.85	—0—	197.44	17.50
NET OPERATING EXPENSE	$ 1,139.74	$ 1,152.12	$ 22,846.25	$ 5,424.39

When the problem is only skin deep

USE 'POLYSPORIN'® brand POLYMYXIN B-BACITRACIN OINTMENT

for topical antibiotic therapy with minimum risk of sensitization

Caution: As with other antibiotic products, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

Supplied in ½ oz. and 1 oz. tubes.

Complete literature available on request from Professional Services Dept. PML.

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Tuckahoe, N.Y.

MEDICAL ASSISTANCE PROGRAM
TITLE XIX

	DECEMBER 1967	DECEMBER 1966	YEAR TO DATE 1967	YEAR TO DATE 1966
INCOME				
A. Claims Income	$14,593.82	$	$14,593.82	$
B. Administration Income				
TOTAL INCOME	$14,593.82		$14,593.82	
EXPENSE				
A. Claims Expense	$11,458.02		$11,458.02	
B. Administration Expense	1,852.45		5,599.90	
TOTAL EXPENSE	$13,310.47		$17,057.92	
% of Adm. Expense To Claims Expense	16.2%		48.9%	
ADMINISTRATIVE EXPENSE				
Salaries	$ 1,352.61	$	$ 2,857.39	$
Travel	240.62		240.62	
Rent	54.38		108.76	
Boards & Bureaus & Assn.	—0—		—0—	
Legal Expense	—0—		—0—	
Furniture	37.90		75.80	
Equipment Rental	—0—		—0—	
Printing & Stationery	—0—		422.63	
Office Supplies	4.07		1,541.82	
Books, Periodicals	—0—		—0—	
Postage	53.90		57.31	
Telephone	3.00		16.95	
Wire System	—0—		—0—	
Insurance	—0—		—0—	
Employee Relations	26.17		110.04	
Auditing	—0—		—0—	
Pay to Service Agencies	—0—		—0—	
Social Security	59.51		125.72	
Board Meeting	—0—		—0—	
Other Taxes	20.29		42.86	
NET OPERATING EXPENSES	$ 1,852.45	$	$ 5,599.90	$

Easy on the Budget...
Easy on the Mother
Tablets & Elixir
For Iron Deficiency Anemia

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brand of FERROUS GLUCONATE

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BREON LABORATORIES INC.
Subsidiary of Sterling Drug Inc.
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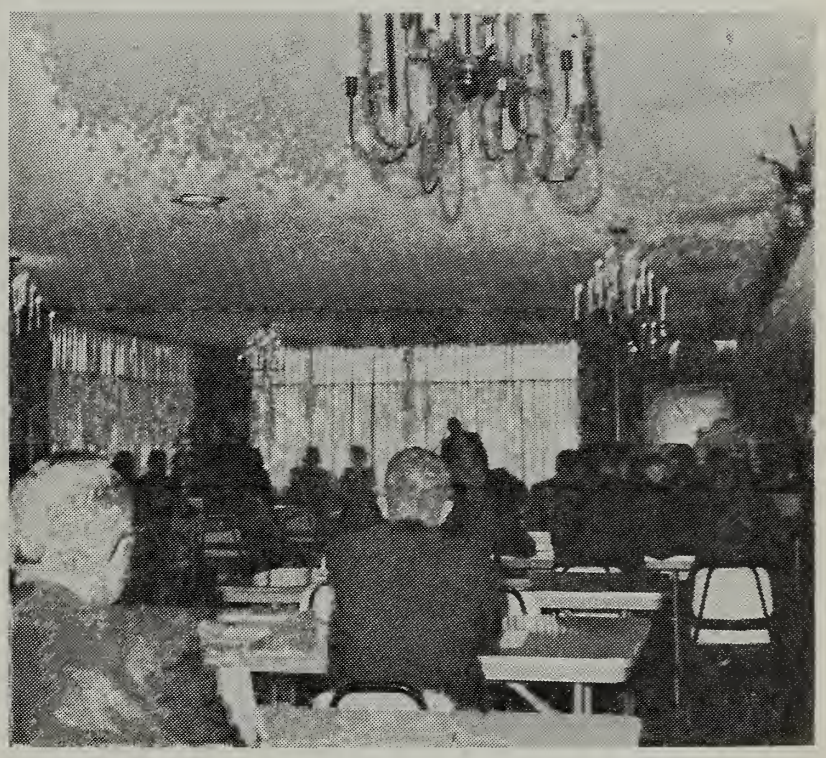
One More Box and It's Off to
The Annual Meeting

$15.00 Registration Fee?

Dr. B. F. King, New President
of Blue Shield, chats with
Randy Tuffs and Dick Erickson

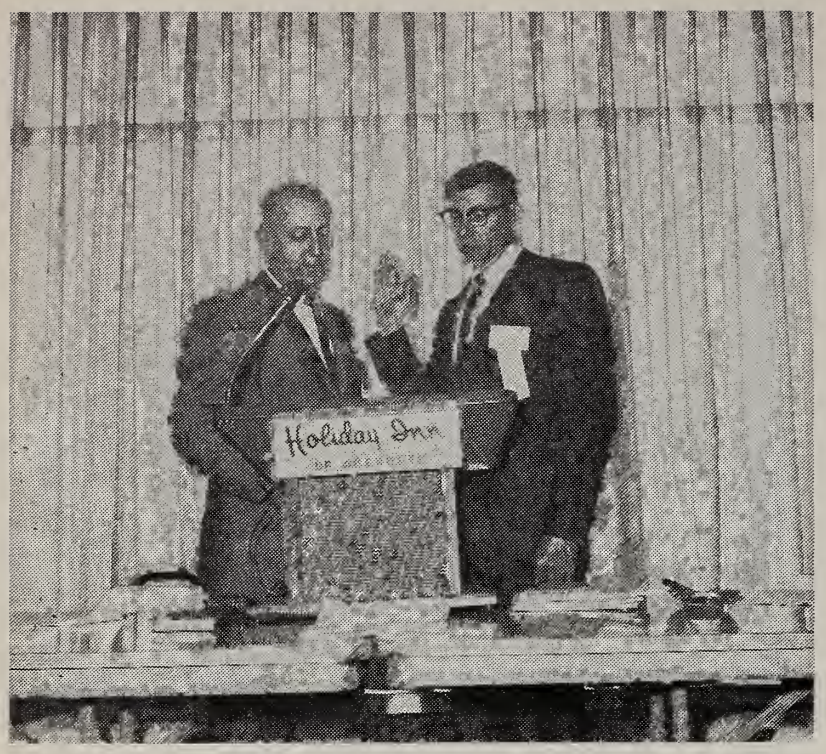
Blue Shield Board Meets



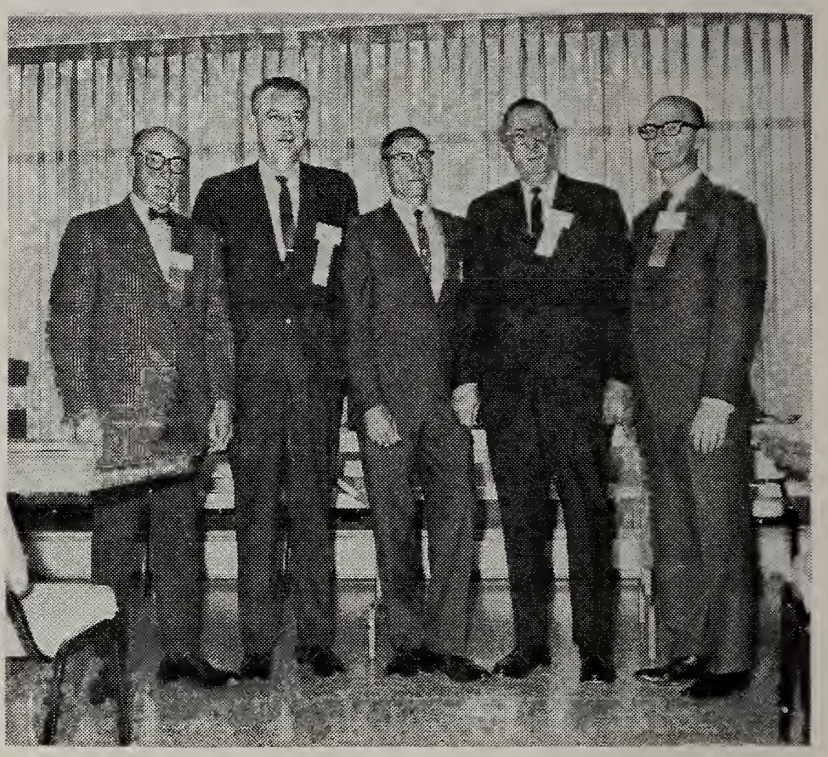
House of Delegates at Work

House of Delegates at Work

House of Delegates at Work

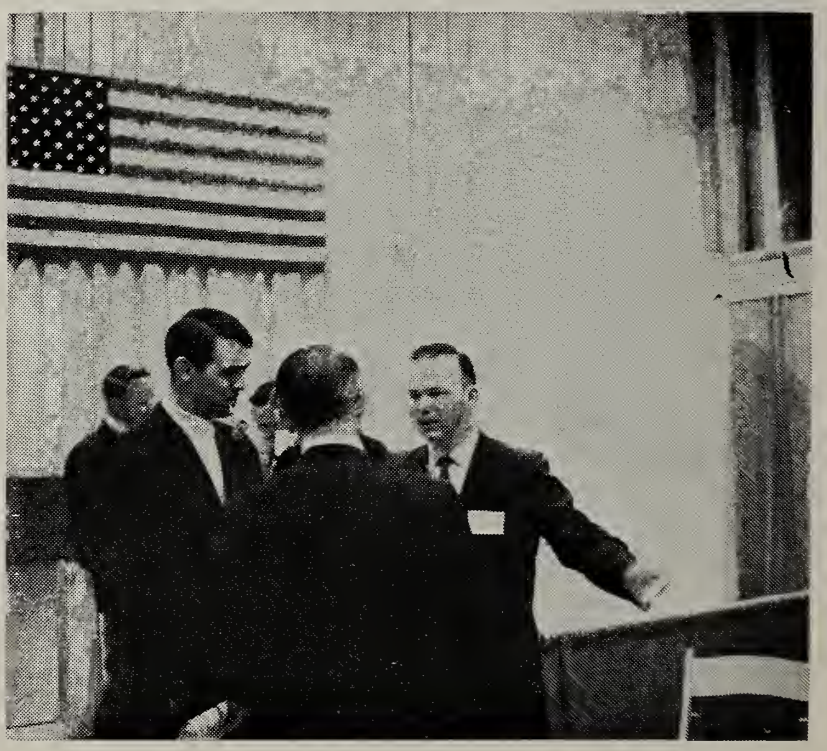


President Elston Receives the
Oath of Office



New Officers: Drs. Muggly, Quinn,
Elston, Reding, Tracy

Dr. McDonald Explains
The Avon Story to Dr. Hayes



Exhibits Were Well Attended

Exhibits Were Well Attended

Dr. Stransky Presents Past-President Award to Dr. Brogdon

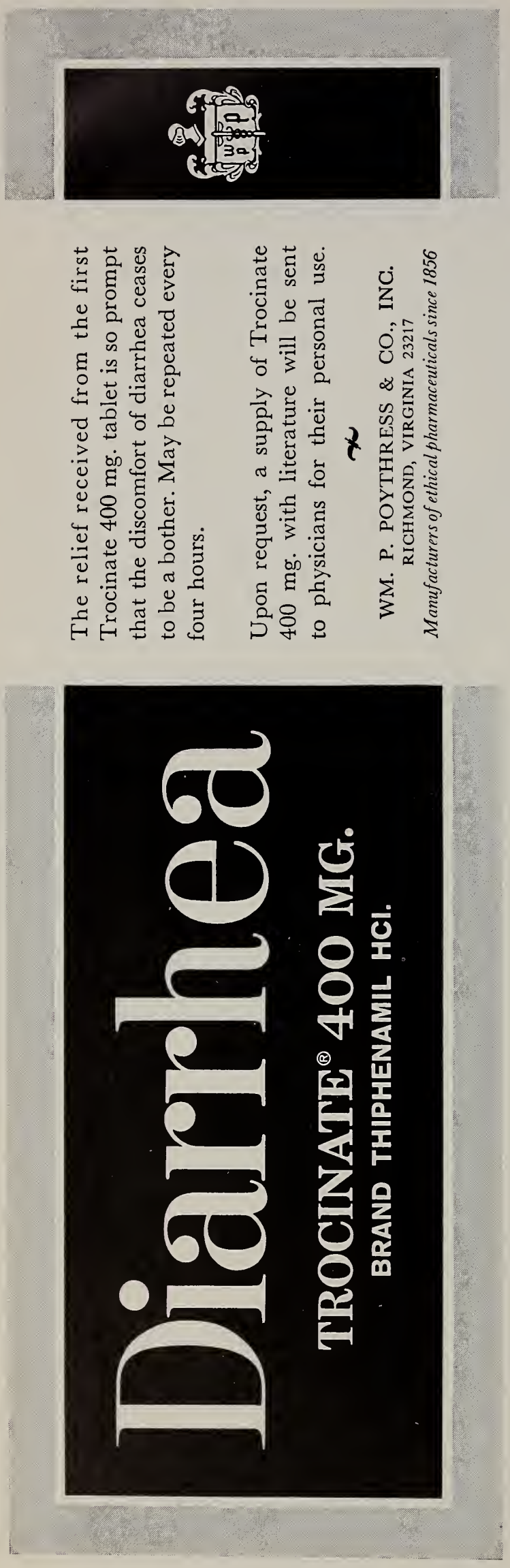
Dr. Moller Receives Viet Nam Citation at Banquet

Dr. Bloemendaal Receives the "Distinguished Service" Award

Dr. Wrage congratulates
outgoing President
J. J. Stransky, M.D.

Executive Secretary Mr. Dick
Erickson presents Dr. Morrissey
With the "Community Service"
Award

Dr. Elston Tries President's Gavel During the Banquet



The relief received from the first Trocinate 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinate 400 mg. with literature will be sent to physicians for their personal use.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

DISTINGUISHED SERVICE AWARD

Started in 1951—T. F. Riggs, M.D., Pierre (deceased)
1952—H. Russell Brown, M.D., Watertown
1953—Guy Van Demark, M.D., Sioux Falls (deceased)
1954—J. C. Ohlmacher, M.D., Vermillion (deceased)
1955—R. G. Mayer, M.D., Aberdeen (deceased)
1956—J. C. Ohlmacher, M.D., Vermillion (deceased)
1957—W. E. Donahoe, M.D., Sioux Falls
1958—Drs. J. C. Hagin, M. W. Pangburn (deceased), and James DeGeest, Miller
1958—J. F. Brenckle, M.D., Superior, Wisc. (deceased)
1958—Mrs. Agnes Holdridge, Madison
1959—Walter L. Hard, Ph.D., Vermillion
1959—Rev. and Mrs. Robert O. Bates, Sturgis
1959—R. M. Kilgard, M.D., Watertown (deceased)
1960—L. J. Pankow, M.D., Sioux Falls
1961—Gregg M. Evans, Ph.D., Custer
1962—Edwin Shaw, Ph.D., Vermillion
1963—Arthur A. Lampert, M.D., Rapid City
1964—John C. Foster, Phoenix, Arizona
1965—A. P. Reding, M.D., Marion
1966—Mrs. C. Rodney Stoltz, Watertown
1967—Mrs. William Fish, Watertown
1968—G. J. Bloemendaal, M.D., Ipswich

FIFTY YEAR CLUB MEMBERS

C. V. Auld, M.D., Plankinton (deceased)
Myrtle Carney, M.D., Ft. Worth, Texas
J. C. Clark, M.D., Sioux Falls (deceased)
F. L. Class, M.D., Huron (deceased)
M. E. Cogswell, M.D., Wolsey (deceased)
J. Cook, M.D., Bonesteel (deceased)
Harold L. Crane, M.D., Avon, Conn.
S. A. Donahoe, M.D., Sioux Falls (deceased)
W. E. Donahoe, M.D., Sioux Falls
V. W. Embree, M.D., Pierre
W. D. Farrell, M.D., Aberdeen (deceased)
R. B. Fleeger, M.D., Lead (deceased)
R. R. Fisk, M.D., Flandreau (deceased)
F. W. Freyberg, M.D., Mitchell
E. E. Gage, M.D., Sioux Falls (deceased)
E. H. Grove, M.D., Arlington (deceased)
Lyle Hare, M.D., Spearfish
J. A. Hohf, M.D., Yankton (deceased)
F. S. Howe, M.D., Deadwood (deceased)
A. H. Hoyne, M.D., Salem (deceased)
A. S. Jackson, M.D., Rapid City
R. J. Jackson, M.D., Hot Springs (deceased)
J. A. Jacotel, M.D., Milbank (deceased)
G. T. Jordan, M.D., Vermillion (deceased)

F. F. Keene, M.D., Wessington Springs (deceased)
B. C. Murdy, M.D., Aberdeen (deceased)
N. T. Owen, M.D., Rapid City (deceased)
L. L. Parke, M.D., Canton
M. O. Pemberton, M.D., Deadwood (deceased)
R. J. Quinn, M.D., Sioux Falls
T. B. Ranney, M.D., Aberdeen (deceased)
T. F. Riggs, M.D., Pierre (deceased)
H. L. Saylor, M.D., Huron (deceased)
J. S. Tschetter, M.D., Huron
F. W. Valkenaar, M.D., Chancellor
G. E. Van Demark, M.D., Sioux Falls (deceased)
H. P. Volin, M.D., Lennox
C. H. Weishaar, M.D., Huron (deceased)
J. R. Westaby, M.D., Madison
G. E. Zimmerman, M.D., Missoula, Montana

COMMUNITY SERVICE AWARD

1961—R. A. Buchanan, M.D., Huron
1962—Roland F. Hubner, M.D., Yankton
1963—George W. Mills, M.D., Wall
1964—John C. Hagin, M.D., Miller
1965—Alonzo P. Peeke, M.D., Volga
1966—Hugo C. Andre, M.D., Vermillion
1967—G. Robert Bartron, M.D., Watertown
1968—M. M. Morrissey, M.D., Pierre

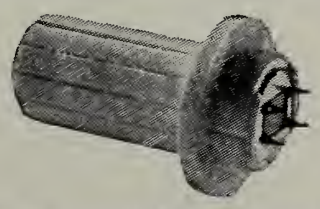
AESCULAPIUS AWARD

1966—Paul R. Leon, M.D.
Walter Miller, M.D., Aberdeen
1968—H. Phil Gross, M.D., Sioux Falls

Tuberculosis? Influenza?
Pneumonia? Leukemia?
Hodgkin's Disease? Syphilis?
Systemic Fungal Diseases?
Chronic Chest Diseases?
or

HISTO?

(Histoplasmosis—"The Masquerader")



A new aid in differential diagnosis

HISTOPLASMIN, TINE TEST
(Rosenthal)

The LEDERTINE™ Applicator with the Blue Handle

Precautions—Nonspecific reactions are rare, but may occur. Vesiculation, ulceration or necrosis may occur at test site in highly sensitive persons. The test should be used with caution in patients known to be allergic to acacia, or to thimerosal (or other mercurial compounds).

Lederle

Ask your representative for details or write Medical Advisory Dept., Lederle Laboratories, Pearl River, New York 10965. 406-8

What can be done for Susan Jane To stop the runs and crampy pain?

Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin, and protects intestinal mucosa.

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

Parepectolin®

Each fluid ounce of creamy white suspension contains:
Paregoric (equivalent).....(1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin ..... (2½ grains) 162 mg.
Kaolin (specially purified)....(85 grains) 5.5 Gm.
(alcohol 0.69%)
Usual Children's Dose: One or two teaspoonfuls three times daily.

RORER

WILLIAM H. RORER, INC.
Fort Washington, Pa.

South Dakota State Medical Association Roster — 1968
Membership by Districts

ABERDEEN
DISTRICT No. 1

Pres., W. R. Taylor, M.D.
Sec., David Seaman, M.D.

*Alway, J. D. ..... Arizona
Avotins, R. ..... Faulkton
Bloemendaal, G. J. ..... Ipswich
Bormes, R. E. ..... Aberdeen
Bormes, W. E. ..... Aberdeen
Bostian, LeRoy ..... Aberdeen
Bunker, P. G. ..... Aberdeen
Bunker, Thomas ..... Aberdeen
Calene, J. L. ..... Aberdeen
Chavier, Juan R. ..... Aberdeen
Collins, James ..... Hoven
Damm, W. P. ..... Redfield
deDianous, N., Jr. ..... Aberdeen
Destache, Donald ..... Aberdeen
Driver, I. ..... Aberdeen
Eckrich, J. A. ..... Aberdeen
Eckrich, J. A., Jr. ..... Aberdeen
Fahrenwald, M. ..... Redfield
Gerber, B. C. ..... Aberdeen
Hagan, A. S. ..... Faulkton
Herrera, Mario ..... Aberdeen
Hovland, James I. ..... Aberdeen
Janusz, A. J. ..... Aberdeen
King, B. F. ..... Aberdeen
Kosse, Karl ..... Aberdeen
Lautzenheiser, Nancy Aberdeen
Leon, Paul ..... Aberdeen
MacDonough, H. J. ..... Aberdeen
McCarthy, P. V. ..... Aberdeen
McGee, R. C. ..... Aberdeen
McIntosh, G. F. ..... Eureka
Murdy, C. B. ..... Aberdeen
Norgello, V. ..... Redfield
O'Sullivan, John ..... Redfield
Patterson, D. ..... Redfield
Perry, E. J. ..... Redfield
Rodine, J. C. ..... Aberdeen
Rosa, S. ..... Redfield
Rudolph, E. A. ..... Aberdeen
Sanders, M. E. ..... Redfield
Scheffel, A. ..... Redfield
Seaman, David ..... Aberdeen
Shousha, Albert ..... Britton
Spicer, E. R. P. ..... Aberdeen
Steele, G. H. ..... Aberdeen
Sweeny, W. T. ..... Aberdeen
Taylor, Wm. R. ..... Aberdeen
Vogele, A. C. ..... Aberdeen
Vogele, C. L. ..... Aberdeen
Zvejnieks, K. ..... Aberdeen

WATERTOWN
DISTRICT No. 2

Pres., S. W. Allen, M.D.
Sec., T. J. Wrage, M.D.

Allen, S. ..... Watertown
Argabrite, J. W. ..... Watertown
Auskaps, R. ..... Watertown
Bartron, G. Robert ..... Watertown
Bartron, H. J., Jr. ..... Watertown
Brakss, V. ..... Watertown
Brevik, A. K. ..... Watertown
Brewster, C. B. ..... Watertown
Brown, H. Russell ..... Watertown
Clark, C. J. ..... Watertown
Fedt, D. ..... Watertown
Gysin, M. W. ..... Watertown
Heinrichs, E. H. ..... Watertown
Heupel, Alden R. ..... Watertown
Hughes, H. D. ..... Clear Lake
Huppler, E. G. ..... Watertown
Larson, James C. ..... Watertown
Magtibay, M. ..... Bryant
Monson, D. G. ..... Watertown
Nelson, P. S. ..... Watertown
Piro, David F. ..... Watertown
Reul, T. ..... Watertown
Rousseau, David ..... M.S.
Rousseau, M. C. ..... Watertown
Ryan, C. ..... Watertown
Stoltz, C. R. ..... Watertown
Stransky, J. J. ..... Watertown
Tracy, G. E. ..... Watertown
Willen, A. ..... Clark
Wrage, T. J., Jr. ..... Watertown

MADISON-BROOKINGS
DISTRICT No. 3

Pres., Robert Shaskey, M.D.
Sec., C. M. Kershner, M.D.

Anderson, J. A. ..... Madison
Arbon, R. K. ..... Lake Preston
Belatti, R. G. ..... Madison
*Davidson, M. ..... Brookings
Francisco, E. C. ..... Estelline
Friefeld, S. ..... Brookings
Henry, Robert ..... Brookings
Hura, R. ..... Howard
Karlen, L. W. ..... Madison
Kershner, C. M. ..... Brookings
Klar, W. ..... Flandreau
Lushbough, B. C. ..... Brookings
McCabe, F. X. ..... Brookings
Muggly, J. A. ..... Madison
Otey, B. T. ..... Flandreau
Patt, W. H. ..... Brookings
Peeke, A. P. ..... Volga
Plowman, E. T. ..... Brookings
Reagan, J. L. ..... Madison
Roberts, C. S., Jr. ..... Brookings
Scheller, D. L. ..... Arlington
Shaskey, R. E. ..... Brookings
*Sherwood, C. E. ..... Madison
Stensrud, H. J. ..... Madison
Tank, M. ..... Brookings
Watson, E. S. ..... Brookings
*Westaby, J. R. ..... Madison
Whitson, G. E. ..... Madison
Wold, H. R. ..... Madison

PIERRE
DISTRICT No. 4

Pres., E. H. Collins, M.D.
Sec., J. T. Cowan, M.D.

Askwig, L. C. ..... Pierre
Collins, E. H. ..... Gettysburg
Cowan, J. T. ..... Pierre
Ferguson, James ..... Murdo
Fox, S. W. ..... Pierre
Horthy, A. ..... Kennebec
Horthy, K. ..... Kennebec
Jahraus, R. C. ..... Pierre
Lindbloom, B. O. ..... Pierre
Morrissey, M. M. ..... Pierre
Spears, B. ..... Pierre
Stephens, W. A. ..... Murdo
Sundet, N. J. ..... Kadoka
Swanson, C. L. ..... Pierre
Tieszen, A. J. ..... Pierre
Van Heuvelen, G. J. ..... Pierre
Werthman, H. E. ..... Pierre
Westland, G. I. ..... Onida
Zakahi, R. J. ..... Pierre

HURON
DISTRICT No. 5

Pres., G. M. Huet, M.D.
Sec., William Hanson, M.D.

Adams, H. P. ..... Huron
Avots-Avotins, K. ..... Texas
Bell, G. Robert ..... De Smet
Buchanan, D. ..... Huron
Buchanan, R. A. ..... Huron
Charbonneau, Y. ..... Huron
Dean, Roscoe ..... Wess. Springs
DeGeest, J. H. ..... Miller
Gryte, C. F. ..... Huron
*Hagin, J. C. ..... Miller
Hanson, Wm. O. ..... Huron
Hofer, E. A. ..... Huron
Hohm, P. ..... Huron
Hohm, T. ..... Huron
Huet, G. M. ..... Huron
Kilpatrick, W. R. J. ..... Huron
Lardinois, C. C. ..... Huron
Leigh, F. D. ..... Huron
Odland, W. B. ..... Huron
Orgusaar, R. ..... Florida
Saxton, W. H. ..... Huron
Saylor, H. L., Jr. ..... Huron
Tschetter, P. S. ..... Huron

MITCHELL
DISTRICT No. 6

Pres., J. T. Berry, M.D.
Sec., John Murphy, M.D.

Berry, J. T. ---- Mitchell
Binder, C. F. ---- Chamberlain
Brogdon, P. P. ---- Oklahoma
Delaney, Robert ---- Mitchell
Delaney, W. A., Jr. ---- Mitchell
Erdmann, Ralph R. ---- Mitchell
Gere, R. G. ---- Mitchell
Gillis, F. D. ---- Mitchell
Holland, L. W. ---- Chamberlain
Judge, J. O. ---- Mitchell
Lewis, H. R. ---- Mitchell
Lloyd, J. H. ---- Mitchell
Loos, C. M. ---- Chamberlain
*Mabee, D. R. ---- Mitchell
Mabee, J. O. ---- Mitchell
Mabee, O. J. ---- Mitchell
McCann, J. P. ---- Parkston
Monson, C. D. ---- Parkston
Mueller, E. H. ---- Tripp
Murphy, John T. ---- Mitchell
Porter, M. H. ---- Parkston
Skogmo, B. R. ---- Mitchell
Tobin, F. J. ---- Mitchell
Tobin, L. W. ---- Mitchell
Vonburg, V. R. ---- Mitchell
Vose, J. L. ---- Mitchell
Weatherill, D. W. ---- Mitchell
Weber, R. A. ---- Mitchell

SIOUX FALLS
DISTRICT No. 7

Pres., D. L. Ensberg, M.D.
Sec., J. B. Gregg, M.D.
Treas., R. R. Giebink, M.D.

Akland, L. ---- Madagascar
Alcorn, F. A. ---- Sioux Falls
Amundson, Loren ---- Sioux Falls
Anderson, C. ---- Sioux Falls
Anderson, T. R. ---- Sioux Falls
Anderson, W. R. ---- Sioux Falls
Angelos, T. ---- Canton
Arneson, W. A. ---- Sioux Falls
Aspaas, P. K. ---- Dell Rapids
Barlow, J. F. ---- Sioux Falls
Barnett, G. L. ---- Sioux Falls
Becker, S. ---- Sioux Falls
Begley, B. J. ---- Sioux Falls
Billion, T. J., Jr. ---- Sioux Falls
Breit, D. H. ---- Sioux Falls
Brzica, S. M. ---- Sioux Falls
Bullock, G. D. ---- Iowa
Burns, E. A. ---- Sioux Falls
Burns, K. R. ---- Sioux Falls
*Carney, M. ---- Texas
Chalmers, J. H. ---- Sioux Falls
Chipman, Martin ---- Sioux Falls
Church, W. G. ---- Sioux Falls
Cornford, R. C. ---- Sioux Falls
Cottam, G. I. W. ---- Sioux Falls
Cutshall, V. H. ---- Sioux Falls
Cutshall, V. K. ---- Sioux Falls
Daggett, James ---- Lennox
Daw, E. F. ---- Sioux Falls
de Marco, Lynn ---- Sioux Falls
Devick, J. C. ---- Colton
Donahoe, J. W. ---- Sioux Falls
Donahoe, R. R. ---- Sioux Falls
*Donahoe, W. E. ---- Sioux Falls
Duimstra, Fred ---- Sioux Falls
Eirinberg, I. ---- Sioux Falls
Elkjer, Neil J. ---- Sioux Falls
Ensberg, D. ---- Sioux Falls
Entwistle, F. R. ---- Sioux Falls
Epp, D. ---- Freeman
Ericksen, E. G. ---- Sioux Falls
Farrell, H. W. ---- Sioux Falls
Felker, James ---- Sioux Falls
Ferrell, M. R. ---- Sioux Falls
Fisk, R. G. ---- Dell Rapids
Frost, D. M. ---- Sioux Falls
Giebink, R. R. ---- Sioux Falls
*Green, R. D. ---- Sioux Falls
Greenfield, D. ---- Sioux Falls
Greenfield, R. E. ---- Sioux Falls
Gregg, J. B. ---- Sioux Falls
Gross, H. Phil ---- Sioux Falls
*Grove, M. S. ---- Sioux Falls
Hage, W. ---- Sioux Falls
Hansen, H. F. ---- Sioux Falls
Hosen, R. S. ---- Sioux Falls
Hoskins, J. H. ---- Sioux Falls
Hoskins, John ---- M.S.
Ihle, C. W. ---- Sioux Falls
Jameson, G. M. ---- Sioux Falls
Janis, J. B. ---- Sioux Falls
Jones, W. L. ---- Sioux Falls
Kaufman, I. I. ---- Freeman
Kaul, Lothar ---- Sioux Falls
*Keller, S. A. ---- California
Kemper, C. E. ---- Viborg
King, L. M. ---- Sioux Falls
Kittelson, H. O. ---- Sioux Falls
Knowles, R. C. ---- Sioux Falls
Kohlmeyer, F. C. ---- Sioux Falls
Lakstigala, P. ---- Sioux Falls
Lang, Durward ---- Sioux Falls
Larson, C. S. ---- Sioux Falls
Leander, R. B. ---- Sioux Falls
Leraan, L. G. ---- Sioux Falls
Lietzke, E. T. ---- Beresford
Manning, D. H. ---- Sioux Falls
Maresh, E. R. ---- Sioux Falls
Mattice, Lloyd ---- Sioux Falls
Moller, C. ---- Dell Rapids
Mutch, M. J. ---- Sioux Falls
McDonald, C. J. ---- Sioux Falls
McGreevy, E. J. ---- Sioux Falls
McGreevy, J. V. ---- Sioux Falls
McHardy, B. R. ---- Sioux Falls
*Nelson, J. A. ---- California
Nelson, R. E. ---- Sioux Falls
Ochsner, J. A. ---- Sioux Falls
Ogborn, R. J. ---- Sioux Falls
Ohrt, D. E. ---- Sioux Falls
Olson, R. G. ---- Sioux Falls
Opheim, W. L. ---- Sioux Falls
Orr, R. T. ---- Sioux Falls
Ortmeier, Denny ---- Sioux Falls
*Pankow, L. J. ---- Sioux Falls
*Parke, L. L. ---- Canton
Pasek, E. A. ---- Sioux Falls
Peik, D. J. ---- Sioux Falls
Petereit, M. F. ---- Sioux Falls
Peters, E. H. ---- Sioux Falls
Petres, A. ---- Salem
Pitt-Hart, Barry T. Sioux Falls
Quinn, R. H. ---- Sioux Falls
*Quinn, R. J. ---- Sioux Falls
Reagan, P. R. ---- Sioux Falls
Rossing, W. O. ---- Sioux Falls
Salmon, Don ---- Sioux Falls
Sanderson, E. W. ---- Sioux Falls
Schultz, R. D. ---- Sioux Falls
Sercl, W. ---- Sioux Falls
Shaeffer, J. H. ---- Sioux Falls
Shreves, H. ---- Sioux Falls
Smith, G. W. ---- Sioux Falls
Stahmann, F. ---- Sioux Falls
Steiner, P. K. ---- Sioux Falls
Stern, C. A. ---- California
Strauss, B. ---- Parker
Sweeney, L. J. ---- Sioux Falls
Tuohy, Gerald F. ---- Sioux Falls
Van Demark, R. E. ---- Sioux Falls
Villa, Jose ---- Freeman
*Volin, H. P. ---- Lennox
Volin, V. V. ---- Sioux Falls
Wagner, Loyd ---- Sioux Falls
Weaver, R. J. ---- Athens, Ga.
Wegner, K. H. ---- Sioux Falls
Wessman, N. E. ---- Sioux Falls
Williams, B. J. ---- Sioux Falls
Williams, M. F. ---- Minnesota
Wingert, Marvin ---- Garretson
Wohlrabe, John ---- Sioux Falls
Zandersons, V. ---- Parker
*Zimmerman, Goldie E. Missoula, Montana

YANKTON
DISTRICT No. 8

Pres., George Knabe, Jr., M.D.
Sec., M. L. Radack, M.D.
Treas., L. G. Behan, M.D.

Abts, F. J. ---- Yankton
Auld, Marian ---- Yankton
Auld, M. A. ---- Yankton
Behan, Lawrence ---- Yankton
Berg, S. ---- Scotland
Eyres, T. E. ---- Vermillion
Foley, R. J. ---- Tyndall
Glood, D. ---- Viborg
Grover, W. W. ---- Bondeul, Wisc.
Haas, F. W. ---- Yankton
Hayes, R. H. ---- Vermillion
Herbrandson, C. R. ---- Vermillion
*Hill, J. F. ---- Yankton
Honke, R. W. ---- Wagner
Hubner, R. F. ---- Yankton
Jackson, J. K. ---- Yankton
Johnson, C. F. ---- Yankton
Kalda, E. F. ---- Platte
Kleinsasser, G. ---- Scotland
Knabe, G. W. ---- Vermillion
Lyso, M. ---- Yankton
McVay, C. B. ---- Yankton
Michael, Amos ---- Indiana
Moore, E. J. ---- Vermillion
Nelson, Earl ---- Lake Andes
Porter, Richard I. ---- Yankton
Price, Ronald ---- Armour
Radack, Morris ---- Yankton
Ranney, B. ---- Yankton
Reade, D. M. ---- Yankton
Reaney, D. B. ---- Yankton
Reding, A. P. ---- Marion
Riesberg, E. ---- Nebraska
Saoi, N. B. ---- Yankton
Sattler, T. H. ---- Yankton
Savage, L. ---- Yankton
Sebring, F. U. ---- Vermillion
Shimamura, T. ---- Vermillion
Stanage, W. F. ---- Yankton
Steele, J. P. ---- Yankton
Thompson, R. F. ---- Yankton
Tidd, J. T. ---- Yankton
Turner, C. R. ---- Vermillion
Willcockson, T. H. ---- Yankton

BLACK HILLS
DISTRICT No. 9

Pres., J. M. Hewitt, M.D.
Sec., H. O. Haugan, M.D.

Ahrlin, H. L. ---- Rapid City
Allen, Bruce ---- Rapid City
Anderson, A. B. ---- Lead
Angelos, G. ---- Hot Springs
Bailey, J. D. ---- Rapid City
Bareis, R. J. ---- Rapid City
Barrett, A. J. ---- Rapid City
Behrens, C. L. ---- Rapid City
Blake, Charles A. ---- Rapid City
Blunck, C. J. ---- Rapid City
Borgmeyer, H. J. ---- Rapid City
Boyce, R. A. ---- Rapid City
Bray, R. B. ---- Rapid City
Cameron, D. E. ---- Rapid City
Carson, L. E. ---- Lead
*Chassell, J. L. ---- Belle Fourche
Chu, C. L. ---- Alabama
Clark, B. S. ---- Spearfish
Cline, J. A. ---- Rapid City
Cowan, L. K. ---- Rapid City
*Crane, H. L. ---- Avon, Conn.
Davidson, H. E. ---- Ft. Meade
Dulaney, C. H. ---- Ft. Meade
Dzintars, P. F. ---- Rapid City
Elston, J. T. ---- Rapid City
Feehan, J. J. ---- Rapid City
Finley, R. C. ---- Rapid City
Freimark, L. G. ---- Rapid City
Fromm, H. E. ---- Rapid City
Frost, H. L. ---- Rapid City
Geib, W. A. ---- Rapid City
Gilbert, F. J. ---- Ft. Meade
Golliher, W. N. ---- Spearfish
Grau, H. J. ---- Rapid City
Gwinn, C. B. ---- Rapid City
Hamm, J. N. ---- Sturgis
Hare, H. J. ---- Rapid City
*Hare, Lyle ---- Spearfish
Harris, R. H. ---- Rapid City
Haugan, H. O. ---- Rapid City
Hewitt, J. M. ---- Rapid City
Hoewing, W. H. ---- Hot Springs
Hofmann, A. R. ---- Rapid City
*Jackson, A. S. ---- Rapid City
Jacobson, T. R. ---- Hot Springs
Jatoi, A. M. ---- Deadwood
Johnson, Robert K. ---- Rapid City
Jones, W. E. ---- Sturgis
Kegaries, D. L. ---- Rapid City
Kovarik, R. A. ---- Rapid City
Kovarik, W. J. ---- Rapid City
Kryger, Peter ---- Deadwood
Kwan, F. P. ---- Rapid City
Lampert, A. A. ---- Rapid City
Langenfeld, M. G. ---- Spearfish
Lydiatt, J. ---- Hot Springs
Mangulis, G. ---- Philip
Marousek, M. ---- Belle Fourche
Mattox, J. E. ---- Deadwood
Mead, T. ---- Spearfish
Merryman, M. P. ---- Rapid City
Millea, R. P. ---- Rapid City
*Mills, G. W. ---- Wall
Munson, H. B. ---- Rapid City
Natarajan, R. ---- Rapid City
*O'Toole, T. F. ---- Rapid City
Owen, G. S. ---- Rapid City
Palmerton, E. S. ---- Rapid City
Paulson, G. ---- Rapid City
Pokorny, J. F. ---- Newell
*Radusch, F. J. ---- Rapid City
Redding, T. J. ---- Belle Fourche
Roman, T. P. ---- Martin
Roper, C. E. ---- Hot Springs
Ruud, E. T. ---- Rapid City
*Salladay, I. R. ---- Pierre
Saxton, A. J. ---- Kansas
Semones, A., Jr. ---- Lead
Sherrill, S. F. ---- Belle Fourche
Shining, H. S. ---- Rapid City
Slingsby, J. B. ---- Rapid City
Smiley, J. C. ---- Deadwood
Smith, J. J. ---- Lead
Spain, M. L. ---- Rapid City
Swisher, L. P. ---- Kadoka
Tesar, C. E. ---- Rapid City
Theissen, H. H. ---- Rapid City
Walton, J. ---- Martin
Westaby, R. S., Jr. ---- Rapid City
Whitney, N. R. ---- Rapid City
Williams, F. R. ---- Rapid City
Wood, G. F. ---- Rapid City
Yackley, J. V. ---- Rapid City
Zanka, J. A. ---- Rapid City

ROSEBUD
DISTRICT No. 10

Pres., M. R. Cosand, M.D.

Cosand, M. R. ---- Winner
Monfore, James ---- Winner
Nemer, R. G. ---- Gregory
Stiehl, R. ---- Winner
Studenberg, D. ---- Gregory
Sweet, E. P. ---- Burke
Vogelgesang, L. C. ---- Gregory

NORTHWEST
DISTRICT No. 11

Pres., Gus Torkildson, M.D.
Sec., B. P. Nolan, M.D.

Gunc, Bedrettin ---- Michigan
Johnson, C. A. ---- Lemmon
Linde, Leonard ---- Mobridge
Lowe, Harold ---- Mobridge
Nolan, B. P. ---- Mobridge
Ryan, J. E. ---- Mobridge
Spiry, A. W. ---- Mobridge
Torkildson, G. ---- McLaughlin
Totten, F. C. ---- Lemmon
Turedi, T. ---- New Jersey

WHETSTONE VALLEY
DISTRICT No. 12

Pres., Dagfinn Lie, M.D.
Sec., Bernard Herzog, M.D.

Batt, E. J. ---- Sisseton
Brauer, H. H. ---- Sisseton
Brinkman, W. C. ---- Sisseton
Czajkowskyj, R. ---- Veblen
Czajkowskyj, T. ---- Veblen
Gregory, D. A. ---- Milbank
Herzog, B. ---- Milbank
Janavs, V. ---- Milbank
Johnson, E. A. ---- Milbank
Judge, W. T. ---- Milbank
Kass, Joseph ---- Rosholt
Karlins, W. H. ---- Webster
Keller, L. W. ---- Webster
Lie, Dagfinn ---- Webster
Lovering, J. ---- Sisseton

M.S.—Indicates Military Service

*—Indicates Honorary Membership

South Dakota State Medical Association Roster — 1968

Membership — Alphabetical Listing

Abts, F. J. ..... Yankton
Adams, H. P. ..... Huron
Ahrlin, H. L. ..... Rapid City
Akland, L. R. ..... Madagascar
Alcorn, F. A. ..... Sioux Falls
Allen, Bruce ..... Rapid City
Allen, S. W. ..... Watertown
*Alway, J. D. ..... Arizona
Amundson, Loren ..... Sioux Falls
Anderson, A. B. ..... Lead
Anderson, C. Wm. ..... Sioux Falls
Anderson, J. A. ..... Madison
Anderson, T. R. ..... Sioux Falls
Anderson, W. R. ..... Sioux Falls
Angelos, G. ..... Hot Springs
Angelos, T. ..... Canton
Arbon, R. K. ..... Lake Preston
Argabrite, J. W. ..... Watertown
Arneson, W. A. ..... Sioux Falls
Askwig, L. C. ..... Pierre
Aspaas, P. K. ..... Dell Rapids
Auld, Marian ..... Yankton
Auld, M. A. ..... Yankton
Auskaps, R. ..... Watertown
Avots-Avotins, K. ..... Texas
Avotins, R. ..... Faulkton
Bailey, J. D. ..... Rapid City
Bareis, R. J. ..... Rapid City
Barlow, J. F. ..... Sioux Falls
Barnett, G. L. ..... Sioux Falls
Barrett, A. J. ..... Rapid City
Bartron, G. R. ..... Watertown
Bartron, H. J., Jr. ..... Watertown
Batt, E. J. ..... Sisseton
Becker, S. F. ..... Sioux Falls
Begley, B. J. ..... Sioux Falls
Behan, L. G. ..... Yankton
Behrens, C. L. ..... Rapid City
Belatti, R. G. ..... Madison
Bell, G. Robert ..... De Smet
Berg, S. ..... Scotland
Berry, J. T. ..... Mitchell
Billion, T. J., Jr. ..... Sioux Falls
Binder, C. F. ..... Chamberlain
Blake, C. A. ..... Rapid City
Bloemendaal, G. J. ..... Ipswich
Blunck, C. F. ..... Rapid City
Borgmeyer, H. J. ..... Rapid City
Bormes, R. E. ..... Aberdeen
Bormes, W. E. ..... Aberdeen
Bostian, Leroy ..... Aberdeen
Boyce, R. A. ..... Rapid City
Brakss, V. ..... Watertown
Brauer, H. H. ..... Sisseton
Bray, R. B. ..... Rapid City
Breit, D. H. ..... Sioux Falls
Brevik, A. K. ..... Watertown
Brewster, C. B. ..... Watertown
Brinkman, W. C. ..... Sisseton
Brogdon, P. P. ..... Oklahoma
Brown, H. R. ..... Watertown
Brzica, S. M. ..... Sioux Falls
Buchanan, D. ..... Huron
Buchanan, R. A. ..... Huron
Bullock, G. D. ..... Iowa
Bunker, P. G. ..... Aberdeen
Bunker, Thomas ..... Aberdeen
Burns, E. A. ..... Sioux Falls
Burns, K. R. ..... Sioux Falls
Calene, J. L. ..... Aberdeen
Cameron, D. E. ..... Rapid City
*Carney, M. ..... Ft. Worth, Texas
Carson, L. E. ..... Lead
Chalmers, J. H. ..... Sioux Falls
Charbonneau, Y. H. ..... Huron
*Chassell, J. L. ..... Belle Fourche
Chavier, J. R. ..... Aberdeen
Chipman, M. ..... Sioux Falls
Chu, C. L. ..... Alabama
Church, Bill G. ..... Sioux Falls
Clark, B. S. ..... Spearfish
Clark, C. J. ..... Watertown
Cline, J. A. ..... Rapid City
Collins, E. H. ..... Gettysburg
Collins, James ..... Hoven
Cornford, R. C. ..... Sioux Falls
Cosand, M. R. ..... Winner
Cottam, G. I. W. ..... Sioux Falls
Cowan, J. T. ..... Pierre
Cowan, L. K. ..... Rapid City
*Crane, H. L. ..... Connecticut
Cutshall, V. H. ..... Sioux Falls
Cutshall, V. K. ..... Sioux Falls
Czajkowskyj, Ruth ..... Veblen
Czajkowskyj, T. ..... Veblen
Daggett, James ..... Lennox
Damm, W. P. ..... Redfield
Davidson, H. E. ..... Ft. Meade
*Davidson, M. ..... Brookings
Daw, E. F. ..... Sioux Falls
Dean, Roscoe ..... Wess. Springs
deDianous, N., Jr. ..... Aberdeen
De Geest, J. H. ..... Miller
Delaney, R. J. ..... Mitchell
Delaney, W. A., Jr. ..... Mitchell
de Marco, Lynn ..... Sioux Falls
Destache, Donald ..... Aberdeen
Devick, J. S. ..... Colton
Donahoe, J. W. ..... Sioux Falls
Donahoe, R. R. ..... Sioux Falls
*Donahoe, W. E. ..... Sioux Falls
Driver, I. E. ..... Aberdeen
Duimstra, Fred ..... Sioux Falls
Dulaney, C. H. ..... Ft. Meade
Dzintars, P. F. ..... Rapid City
Eckrich, J. A. ..... Aberdeen
Eckrich, J. A., Jr. ..... Aberdeen
Eirinberg, I. ..... Sioux Falls
Elkjer, N. J. ..... Sioux Falls
Elston, J. T. ..... Rapid City
Ensberg, D. L. ..... Sioux Falls
Entwistle, F. R. ..... Sioux Falls
Epp, D. L. ..... Freeman
Erdmann, R. R. ..... Mitchell
Ericksen, E. G. ..... Sioux Falls
Eyres, T. E. ..... Vermillion
Fahrenwald, M. ..... Redfield
Farrell, H. W. ..... Sioux Falls
Fedt, Donald ..... Watertown
Feehan, J. J. ..... Rapid City
Felker, J. ..... Sioux Falls
Ferguson, J. S. ..... Murdo
Ferrell, M. R. ..... Sioux Falls
Finley, R. C. ..... Rapid City
Fisk, R. G. ..... Dell Rapids
Foley, R. J. ..... Tyndall
Fox, S. W. ..... Pierre
Francisco, E. G. ..... Estelline
Freimark, L. ..... Rapid City
Friefeld, S. ..... Brookings
Fromm, H. E. ..... Rapid City
Frost, D. M. ..... Sioux Falls
Frost, H. L. ..... Rapid City
Geib, W. A. ..... Rapid City
Gerber, B. C. ..... Aberdeen
Gere, R. G. ..... Mitchell
Giebink, R. R. ..... Sioux Falls
Gilbert, F. J. ..... Ft. Meade
Gillis, F. D. ..... Mitchell
Glood, D. ..... Viborg
Golliher, W. N. ..... Spearfish
Grau, H. J. ..... Rapid City
*Green, R. D. ..... Sioux Falls
Greenfield, D. L. ..... Sioux Falls
Greenfield, R. E. ..... Sioux Falls
Gregg, J. B. ..... Sioux Falls
Gregory, D. A. ..... Milbank
Gross, H. Phil ..... Sioux Falls
*Grove, M. S. ..... Sioux Falls
Grover, W. W. ..... Bondeul, Wisc.
Gryte, C. F. ..... Huron
Gunc, Bedrettin ..... Michigan
Gwinn, C. B. ..... Rapid City
Gysin, Walter ..... Watertown
Haas, F. W. ..... Yankton
Hagan, A. S. ..... Faulkton
Hage, W. J. ..... Sioux Falls
*Hagin, J. C. ..... Miller
Hamm, J. N. ..... Sturgis
Hansen, H. F. ..... Sioux Falls
Hanson, W. O. ..... Huron
Hare, H. J. ..... Rapid City
*Hare, Lyle ..... Spearfish
Harris, Russell ..... Rapid City
Haugan, H. O. ..... Rapid City
Hayes, R. H. ..... Vermillion
Heinrichs, E. H. ..... Watertown
Henry, Robert ..... Brookings
Herbrandson, C. R. ..... Vermillion
Herrera, M. L. ..... Aberdeen
Herzog, B. F. ..... Milbank
Heupel, Alden R. ..... Watertown
Hewitt, J. M. ..... Rapid City
*Hill, J. F. ..... Yankton
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Hofer, E. A. ..... Huron
Hofmann, A. R. ..... Rapid City
Hohm, Paul ..... Huron
Hohm, Theo. ..... Huron
Holland, L. W. ..... Chamberlain
Honke, R. W. ..... Wagner
Horthy, A. ..... Kennebec
Horthy, K. ..... Kennebec
Hosen, R. S. ..... Sioux Falls
Hoskins, J. H. ..... Sioux Falls
Hoskins, John ..... M.S.
Hovland, James I. ..... Aberdeen
Hubner, R. F. ..... Yankton
Huet, G. M. ..... Huron
Hughes, H. D. ..... Clear Lake
Huppler, E. G. ..... Watertown
Hura, R. ..... Howard
Ihle, C. W. ..... Sioux Falls
*Jackson, A. S. ..... Rapid City
Jackson, J. K. ..... Yankton
Jacobson, T. R. ..... Hot Springs
Jameson, G. M. ..... Sioux Falls
Jahraus, R. C. ..... Pierre
Janavs, V. ..... Milbank
Janis, J. B. ..... Sioux Falls
Janusz, A. J. ..... Aberdeen
Jatoi, A. M. ..... Deadwood
Johnson, C. A. ..... Lemmon
Johnson, C. F. ..... Yankton
Johnson, E. A. ..... Milbank
Johnson, Robert ..... Rapid City
Jones, W. E. ..... Sturgis
Jones, W. L. ..... Sioux Falls
Judge, J. O. ..... Mitchell
Judge, W. T. ..... Milbank
Kalda, E. F. ..... Platte
Karlen, L. W. ..... Madison
Karlins, W. H. ..... Webster
Kass, Joseph ..... Rosholt
Kaufman, I. I. ..... Freeman
Kaul, Lothar ..... Sioux Falls
Kegaries, D. L. ..... Rapid City
Keller, L. W. ..... Webster
*Keller, S. A. ..... California
Kemper, C. E. ..... Viborg
Kershner, C. M. ..... Brookings
Kilpatrick, W. R. J. ..... Huron
King, B. F. ..... Aberdeen
King, L., Jr. ..... Sioux Falls
Kittelson, H. O. ..... Sioux Falls
Klar, W. ..... Flandreau
Kleinsasser, G. ..... Scotland

Knabe, G. W. ..... Vermillion
Knowles, R. C. ..... Sioux Falls
Kohlmeyer, F. C. ..... Sioux Falls
Kosse, Karl ..... Aberdeen
Kovarik, R. A. ..... Rapid City
Kovarik, W. J. ..... Rapid City
Kryger, Peter ..... Deadwood
Kwan, F. P. ..... Rapid City
Lakstigala, Peter ..... Sioux Falls
Lampert, A. A. ..... Rapid City
Lang, Durward ..... Sioux Falls
Langenfeld, M. G. ..... Spearfish
Lardinois, C. C. ..... Huron
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Larson, J. C. ..... Watertown
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Leander, R. B. ..... Sioux Falls
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Leon, Paul ..... Aberdeen
Leraan, L. G. ..... Sioux Falls
Lewis, H. R. ..... Mitchell
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Wrage, T. J., Jr. ..... Watertown
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Zakahi, R. J. ..... Pierre
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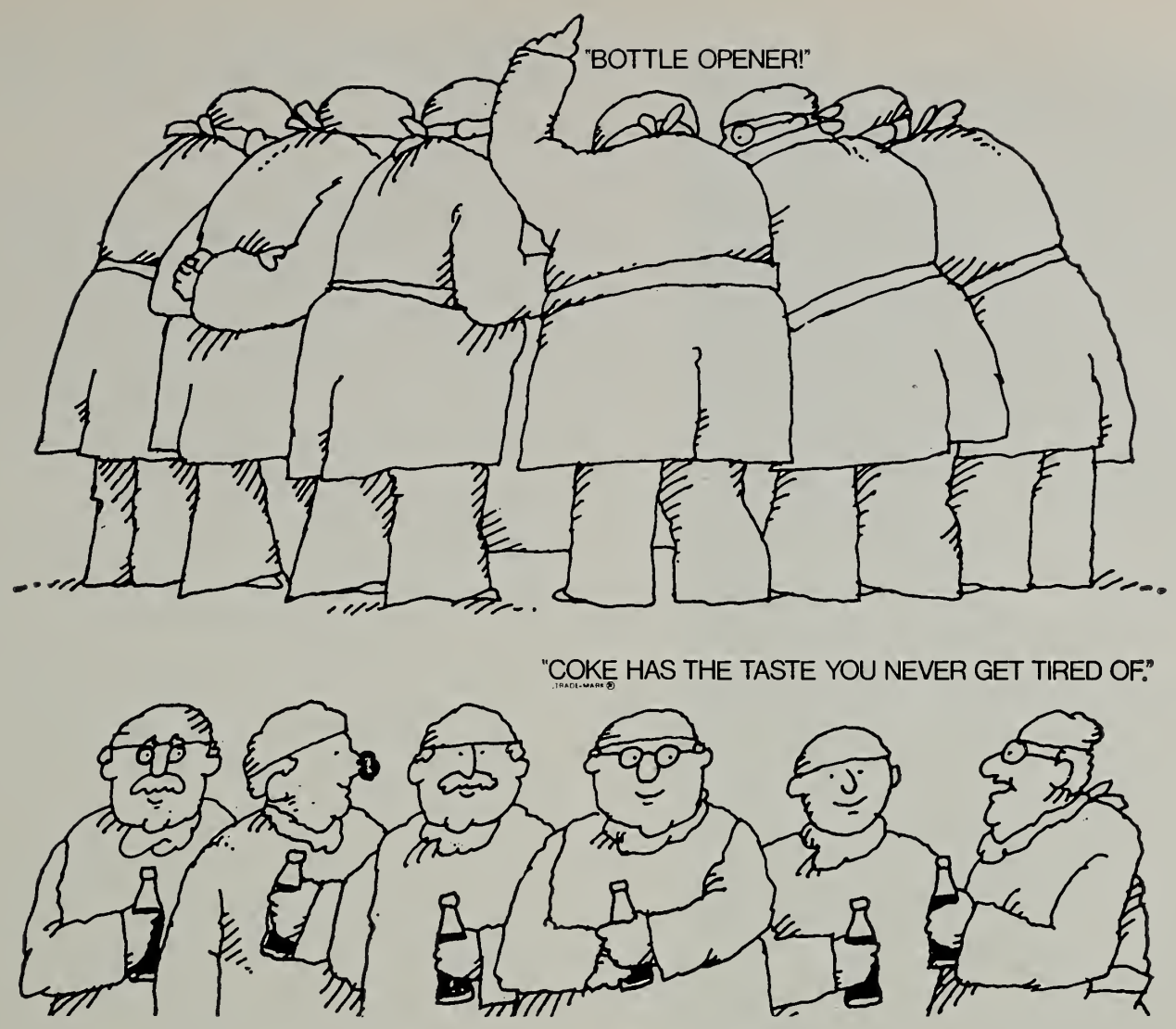

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ANNOUNCEMENT AND INVITATION

A cordial invitation is extended to all interested physicians to attend the combined meeting of the American College of Physicians for South Dakota and the South Dakota Society of Internal Medicine, which will be held Friday and Saturday, August 23-24, 1968, at the Gill's Sun Inn Motel, Rapid City, South Dakota.

We are fortunate to have as our honored guest Edward Rosenow, M.D., Executive Director A.C.P., who will officially represent the college and participate in our scientific program.

Registration will be held at 8:30 A.M. and at 1:00 P.M. on Friday, August 23, 1968. There will be no registration fee for either guests or members.

A social hour at 6:30 P.M. will precede the banquet at 7:30 P.M. at the Gill's Sun Inn Motel. All members and guests are cordially invited to bring their wives to the social hour and dinner. Tickets for the banquet may be purchased at the time of registration.

We look forward to an interesting and rewarding meeting. An excellent scientific program has been arranged with the highly topical presentations by Charles J. Smyth, F.A.C.P., on Rheumatology, and Matthew H. Block, M.D., Ph.D., discussing Immunoglobulins, on Saturday morning.

The South Dakota Society of Internal Medicine, Clark F. Johnson, M.D., President, will meet at 9:30 A.M., Friday morning, for the annual meeting. Charles J. Smyth, F.A.C.P., Trustee, A.S.I.M., Denver, Colorado, will participate.

Room reservations should be arranged directly with headquarters motel.

THEODORE H. SATTLER, F.A.C.P.
Governor for South Dakota

(Continued on Next Page)

Solo general practice is available in Lake Preston, S. D. Anyone interested please contact R. K. Arbon, M.D., Box 188, Lake Preston, South Dakota 57249.

PROGRAM COMMITTEE

E. T. Ruud, M.D., Chairman
Robert K. Johnson (Associate)
Gordon S. Paulson, F.A.C.P.

COMMITTEE ON LOCAL ARRANGEMENTS

Reuben J. Bareis, F.A.C.P.
H. Streeter Shining, M.D.

MORNING PROGRAM
Friday, August 23, 1968

Gill's Sun Inn Motel
1901 St. Joe St.
Rapid City, South Dakota

A.M.

9:00 South Dakota Society of Internal Medicine Annual Meeting.
Presiding
CLARK F. JOHNSON, M.D.
Yankton, South Dakota, President
Guest
Charles J. Smyth, F.A.C.P.
Denver, Colorado, Trustee, A.S.I.M.

12:00 Luncheon.

SCIENTIFIC PROGRAM
Friday, August 23, 1968

P.M.

1:15 Registration.
Presiding
DONALD L. KEGARIES, F.A.C.P.
Ex-Governor, A.C.P.

1:30 Welcome and Announcements.
THEODORE H. SATTLER, F.A.C.P.
Yankton, South Dakota
Governor for South Dakota

1:40 Insulin Resistance — Newer Developments.
Robert K. Johnson (Associate)
Rapid City, South Dakota

2:05 Stranger Than Fiction — Histamine Cephalgia and Narcolepsy.
Gordon S. Paulson, F.A.C.P.
Rapid City, South Dakota

2:30 Introduction of Distinguished Guests.

3:00 Coffee Intermission.

3:20 The Many Faces of Lupus.
E. T. Ruud, M.D.
Rapid City, South Dakota

3:45 Some Aspects of Misdiagnosis.
Edward C. Rosenow, M.D., F.A.C.P.
Philadelphia, Pennsylvania

4:10 Hiatal Hernia.
Theodore H. Sattler, F.A.C.P.
Yankton, South Dakota

4:35 Preliminary Survey of a Newly Founded Coronary Care Unit.
Warren L. Jones (Associate)
Sioux Falls, South Dakota

EVENING PROGRAM

6:30 Social Hour.
Gill's Sun Inn Motel
1901 St. Joe St.
Rapid City, South Dakota

7:30 Banquet.
Gill's Sun Inn Motel
Presiding
CLARK F. JOHNSON, M.D., PRESIDENT
South Dakota Society of Internal Medicine
Speaker
Edward C. Rosenow, M.D., F.A.C.P.
Executive Director, A.C.P.
Philadelphia, Pennsylvania

SCIENTIFIC PROGRAM
Saturday, August 24, 1968

A.M.

8:30 Registration.
Presiding
GORDON S. PAULSON, F.A.C.P.

9:00 Current Aspects of Rheumatology.
Charles J. Smyth, F.A.C.P.
Ex-Governor for Colorado
Professor of Medicine,
University of Colorado

10:20 Coffee Break.

10:40 The Immunoglobulins.
Matthew H. Block, M.D., Ph.D.
Professor of Medicine,
University of Colorado

12:00 Adjournment.

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Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

MEASUREMENT OF SERUM THYROXINE

(T_4 by Column)

Protein bound iodine of serum consists of thyroxine (T_4), triiodothyronine (T_3) and mono and diiodotyrosines which are reversibly bound to serum proteins. Protein bound T_4 and T_3 comprise approximately 95% of the protein bound iodine and are the most important hormones that control a patient's metabolic status. Therefore, measurement of T_4 and T_3, rather than the measurement of the total protein bound iodine level, would serve as an excellent indicator of thyroid function. In most instances the protein bound iodine determination provides reliable and clinically useful information. However, the presence of inorganic and organic iodine contamination in the serum invalidates the result of the PBI determination. In these cases a more accurate estimation of the patient's thyroid status is obtained from the butanol extractable iodine determination (BEI). Most of the contaminating inorganic and organic iodine is eliminated by butanol extraction and the results obtained more nearly correlate with the patient's true metabolic status. However, in some cases, precise BEI values are not obtained because of inability of the procedure to eliminate small traces of organic iodine contamination. These trace contaminants may produce sufficient false elevation in the BEI, for instance, to place a hypothyroid patient in the euthyroid range or an euthyroid patient in the hyperthyroid range.

It is now possible using the T_4 by Column test to alert the physician to the presence of small amounts of organic iodine contamination which cannot be detected by any other method. Therefore, this has become a very useful diagnostic procedure.

In this procedure the serum is passed through an ion exchange resin which selectively binds T_4 and T_3. The T_4 and T_3 are eluted from the column in several washings and the amount of thyroxine and triiodothyronine (measured as PBI) eluted in the first washing is compared to that eluted in the second washing. In the first washing 80-95% of T_4 and T_3 is eluted and 5-20% of the T_4 and T_3 is eluted in the second washing. If the amount of iodine eluted in the second washing is greater than 20% of the total, it is evidence that the patient's blood is contaminated with organic iodine and the result is not a true assessment of thyroid status. On the other hand, if the elution pattern is normal then the amounts of iodine in both eluates are measured and the sum of the two reported as the T_4 by Column.

The advantages of this procedure are:

1) Inorganic iodide as high as 1000 mg.% does not interfere with the procedure.
2) Moniodotyrosine and diiodotyrosine (which normally comprise 5% of the PBI) are not measured.
3) There is considerably less interference by exogenous iodine compounds which may not be detected by the PBI or BEI procedures.

The major disadvantage of this procedure is that it will not yield valid thyroxine levels in those conditions in which the thyroxine binding proteins are elevated or decreased due to pregnancy, illness or drug therapy.

NORMAL RANGE: 2.5 to 7.5 ug%

SPECIMEN REQUIRED: 4 ml. serum

PRESIDENT'S PAGE

July 3, 1968

Fellow Physicians:

Recently several members of SDSMA were invited to attend a meeting of the Legislative Research Council in Pierre for the purpose of discussing the shortage of physicians in rural South Dakota. Discussion was first directed to the reasons why physicians do not choose South Dakota as a place to practice and why the smaller communities find it increasingly difficult to obtain physicians. Next, the actual distribution of physicians in the state and the reasons for such distribution were discussed. Finally, considerable time was allowed for discussion of possible courses of corrective action which might be taken. The opinions expressed were those of the individual participants.

The discussion brought clearly into focus the fact that the training of physicians within the state, either in the School of Medicine at USD or in internship and residency programs, is of vital importance in developing a constant supply of physicians for South Dakota. Approximately 1/3 of the physicians now practicing here are former students of the School of Medicine and approximately ½ of the physicians licensed in the past 2 years either trained at the School of Medicine or had some graduate training in the state. The necessity for continued state support of the School of Medicine is thus apparent. The public press perhaps overemphasized the discussion of a four year medical school which was mentioned only as a possible future need. It is hoped that the legislature will see fit to substantially increase financial support to the present school for only then may our attention be turned to more advanced and expensive educational programs. Many medical and dental schools are in desperate financial circumstances and only recently one school of dentistry was forced to close. A national crisis in medical education is recognized and the situation here at home is acute. This is an odd circumstance in these days of affluence and in view of the nationwide clamor for increased medical services.

John T. Elston, M.D.
President

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*anticostive, *adj.* (*anti* opposed to + *costive* causing constipation.) Against constipation. Now isn't that a good idea in an iron-containing hematinic?

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News Notes • Changes • Births • News

Pop's Proverb

The strain of living an exemplary life is apt to make it a short one.

The American Academy of General Practice has re-elected **A. P. Reding, M.D.,** Marion, and **B. R. Skogmo, M.D.,** Mitchell, to active membership in that organization.

* * *

G. Robert Bartron, M.D. spoke at Memorial Day services in Miller and Ree Heights.

* * *

Brookings High School students viewed a film on the dangers of narcotics which was presented by **Bruce Lushbough, M.D.**

* * *

Gordon R. Held, M.D. was elected to the Yankton Board of Education for a five year term.

The Brookings-Madison District met at the Town House Supper Club and the program "Types of Disability and Eligibility for Rehabilitation" was presented by **S. M. Brzica, M.D.**

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Anton Petres, M.D. participated in a free immunization clinic held in Salem.

* * *

Preston Brogdon, M.D., formerly of Mitchell, has accepted a position with the Family Medical Clinic at the University of Oklahoma in Oklahoma City. Dr. Brogdon will be co-director of the school's residency program in family medicine with the academic rank of assistant professor.

* * *

As President of the Dunham Historical Society, **Roscoe Dean, M.D.** accepted a marker commemorating Robert S. Vessey, seventh governor of South Dakota.

* * *

The Deadwood Library received a genealogical record of **Flora Hayward Stanford, M.D.** from Mr. and Mrs. Albert Hidy, Portland, Oregon. Dr. Stanford practiced in that town from 1888 until 1901.

George Knabe, M.D., Dean of the Medical School; **A. P. Reding, M.D.,** Marion; **Roscoe Dean, M.D.,** Wessington Springs; and **John Elston, M.D.,** Rapid City, attended the meeting of the Legislative Research Council in Pierre to study the shortage of doctors in rural South Dakota.

Warren Jones, M.D. spoke on the two year Medical School at the University of South Dakota at a meeting of the Vermillion Rotary Club.

* * *

J. T. Berry, M.D. served as medical adviser during the Girls State held at Dakota Wesleyan in Mitchell.

Castlewood high school honor students received their certificates from **G. Robert Bartron, M.D.** prior to commencement exercises.

* * *

C. J. McDonald, M.D. was elected to the Blue Cross Board of Directors at the annual meeting in Sioux City.

LETTERS TO THE EDITOR

June 3, 1968

Dear Mr. Erickson:

I want to thank you so much for your part in financing my trip to the International Science Fair in Detroit. It was a very worthwhile and rewarding trip; thank you for making it possible.

Sincerely,
Maybeth Myers

Richard C. Erickson, Executive Secretary
South Dakota State Medical Association
711 North Lake
Sioux Falls, South Dakota 57104

Dear Mr. Erickson:

The Committee on Careers is indeed grateful for the generous donation from the South Dakota State Medical Association in aiding us to inform interested individuals in our state about the various health careers.

We thank you for your interest in the work of our committee and appreciate your gift.

Sincerely yours,
Sister Jane Frances Mullaney
Careers Committee
South Dakota League for Nursing
Treasurer

---

819 E. Broadway
Pierre, South Dakota
May 31, 1968

South Dakota Medical Association
711 North Lake Ave.
Sioux Falls, South Dakota

Dear Sir:

I would like to thank those who make the annual State Medical Association Scholarship Awards to a sophomore medical student possible.

I was fortunate enough to receive the award this year and I am very grateful.

Thank you again.

Sincerely,
Wes D. Putnam

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JOURNAL OF MEDICINE

SEPTEMBER • 1968

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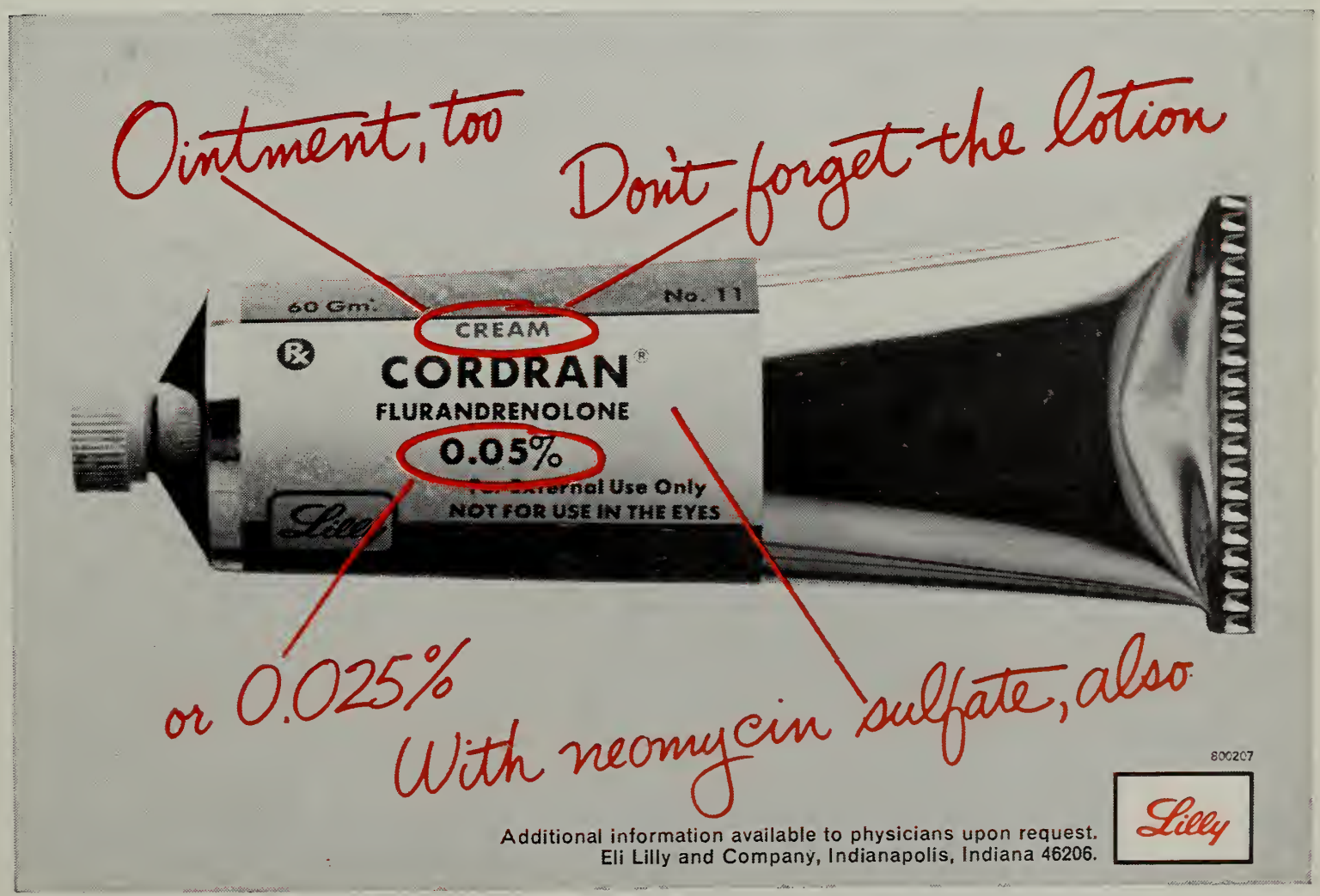

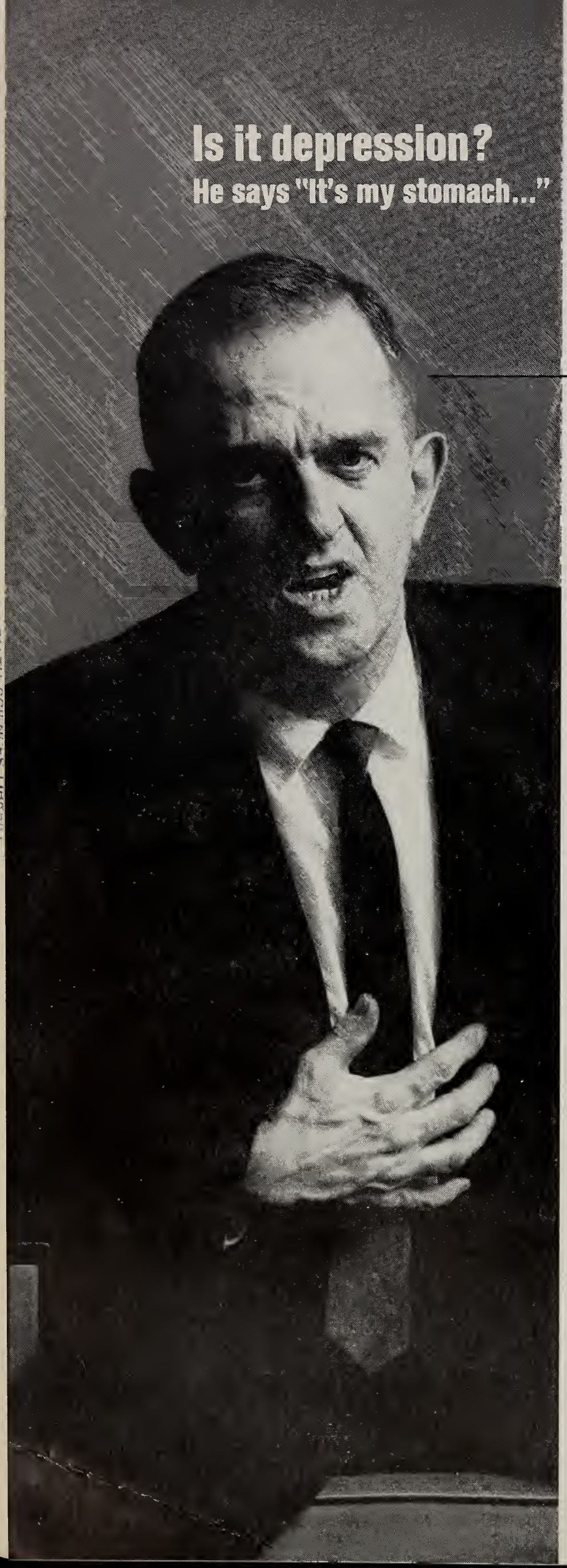

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JOURNAL OF MEDICINE

**JOURNAL OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION
AND THE SIOUX VALLEY MEDICAL ASSOCIATION**

Volume XXI **September, 1968** **Number 9**

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HEALTH SCIENCES LIBRARY

FOUR CASES OF CARBON MONOXIDE POISONING IN ONE FAMILY*

E. S. Watson, M.D.

Between the dates of January 2nd and January 5th, 1968 in Brookings, S. D., the temperature varied between 2 degrees above zero and 26 degrees below. The family which is the subject of this paper lived in a comfortable one story, 3 bed-room home heated with a natural gas forced air furnace. On January 2nd the father, age 50, and his son, age 11, had been ice fishing and that evening the family, including the wife, age 52, and the daughter, age 13, consumed most of the fish for supper and a few fish which were left over were later found in the refrigerator. After supper it is known that the family roasted marshmallows in the fireplace. When they retired that evening the thermostat regulating the furnace was set at 80 degrees.

Nothing was heard from the family from the evening of January 2nd until 9 A.M. on January 5th when there was an urgent call from the 11-year old son saying that a terrible disease had struck his house, that his sister was dead and his father and mother were sick.

Upon arriving at the home, it was noted to be quite warm and tightly closed. The 13 year old girl was dead, lying on her back in bed with frothy, pinkish fluid exuding from the nose and mouth, some of which had dried about the face. The lips were purplish red to purplish blue and there was slight dessication of the skin of the tips of the fingers.

The father was found lying in the hallway leading to the bathroom. The left eye was swollen shut. There were abrasions and vesiculations on the left side of the head, face, left anterolateral chest, left forearm, left hand and over both knees. There was massive swelling of the left side of the neck, left forearm and hand and the left radial pulse could not be palpated. There was dried vomitus on his face and there had been incontinence of bladder and bowel. He was able to raise himself on his right elbow and he said "I know you." He said the last thing he could recall was toasting marshmallows and eating fish on the evening of January 2nd.

The mother was found on her back in the master bed-room, comatose. The face was gray and bloated. Vomitus had run out of both sides of the mouth and had dried on the face. Breathing was stertorous. There was a large black pressure sore under the right heel. The pupils were dilated. She had been incontinent.

The boy, age 11, was up and about and felt well except for being dizzy. He said that he thought a long time had passed. He remembers getting up sometime to vomit. Finding his father in the bathroom, he went to a toilet in the basement and he felt so sick he lay down on a bed in the basement. It was later noted that there were some cracks around the window in this basement room. He remembered coming back up stairs and seeing his father on the floor and then returned to his bed-room on the first floor.

---

* Presented at SDSMA Annual Meeting, May 20, 1968.

It was noted that there was dried vomitus on his face and he too had been incontinent of bladder and bowel.

The family dog which slept on the landing near the back door appeared normal and has remained well.

By each of the three beds were newspapers on the floor with a pan or pail partly full of water, but there was no vomitus in these utensils.

At that point the diagnosis seemed to be either food poisoning or carbon monoxide poisoning. A coroner's investigation got under way. Left over food in the electric refrigerator was preserved for analysis. It was noted that the kitchen range and water heater were electrically operated. Mechanical Engineers from South Dakota State University and a Physicist from Augustana College made a survey. They found no carbon monoxide in air samples from various rooms in the house 3 days after the occupants had been removed. There was partly burned wood in the fireplace and the fireplace damper was closed. There was no smoke or soot in the house. There was a good draft in the fireplace chimney and in the furnace chimney. A build-up of stalagmite icicles was noted on the Belmont cap of the furnace chimney but this was not sufficient to completely occlude the vent. Tests for carbon monoxide in the flue gases coming from the furnace showed a concentration of one tenth of one percent. After adjusting the flame for cleaner burning, no carbon monoxide was found. The investigators disagreed as to whether a potentially lethal concentration of carbon monoxide might have come from incomplete combustion in the furnace or in the fireplace.

The body of the girl was transported to McKennan Hospital, Sioux Falls, where pathologist T. R. Anderson, M.D., performed an autopsy finding only autolysis in all organs and increased coloration of the choroid plexus and a cherry red discoloration of cerebral tissue. By the afternoon of January 5th he was able to report that autopsy findings were consistent with carbon monoxide poisoning. Blood drawn from the heart was sent to the State Chemist in Vermillion who reported on January 8th that it contained a concentration of over 26.5% carbon monoxide. Blood obtained from both parents 2 hours after hospitalization showed no carbon monoxide.

On hospitalization the mother was in deep coma with wandering gaze, stertorous respirations at 50 per minute, rectal temperature 102.6, mouth full of vomitus, dullness and decreased expansion of the left chest and bronchial breathing on the left. There was a right Babinski. Knee jerks and ankle jerks were absent. X-ray of the chest showed massive congestion on the left, compatible with aspiration pneumonitis. Hemoglobin was 16.2 gms. percent and there was 3 plus albuminuria. The white blood count was 7,900 with 80% neutrophils. Spinal fluid was normal. Blood sugar was normal. BUN was 30 mg. percent. There was a slight metabolic acidosis which was quickly corrected with electrolytes.

The rectal temperature rose to 103 on the day of admission and then fell slowly to normal. Antibiotics were given. On the second day she could pronounce her son's name and gave her street address. On the third day she moved both arms and legs and remembered eating fish and toasting marshmallows on the evening of January 2nd. On the fourth day she fed herself and watched T.V. She was told of her daughter's death and she showed no emotion. On the seventh day she sat up and asked where her daughter was. On the fourteenth day she walked with help but a right foot drop was present. On the seventeenth day she was taken to a friend's home to visit but she couldn't remember where she had been. From the seventeenth day the bowels were controlled by suppositories and she was lifted onto the toilet. From then on she stopped moving the right arm and leg and they became spastic. She stopped watching television. She sometimes would reply "yes" and "no" and when the paralyzed limbs were moved she might say "ouch." She had to be fed. She showed no sign of recognition of her husband and her son who were in the same hospital room. She deteriorated from a highly intelligent, warmly responsive person to a low level of vegetation. She continued to vegetate for 2 or 3 weeks. The paralyzed right arm and leg were exercised through a full range of motion every 2 hours. She was removed to a nursing home where she received excellent loving care. She has improved very slowly to the point where she can now walk readily with a walker and can move all the muscles on the right side and can feed herself. She is not yet able to get out of a chair alone. Two weeks ago she asked where her daughter was and she seemed to show an appropriate emotional response when told by her pastor that the daughter was dead. She is alert and responsive but her thought is somewhat slow and she does not initiate conversation.

In spite of his battered appearance and cloudy sensorium the father, on hospitalization, could, with visible effort concentrate upon giving lucid answers. He showed almost adequate concern about his wife and son but he did not ask about his daughter. It was thought that the massive swelling of the left forearm and hand were due to lying on them for 48 hours or more. The skin of the forearm resembled the appearance of a second degree burn. It hung in shreds and was trimmed away with scissors. The bladder was distended. He could drink but the first few swallows of water were an agony. X-ray of the chest was negative. By the evening of admission the rectal temperature rose to 103. On the day after admission he became almost anuric and developed severe hypovolemic shock and severe metabolic acidosis. Blood pressure could not be obtained and central venous pressure dropped to 1 centimeter. These were corrected by giving 10,500 ml. of intravenous electrolytes during the first full hospital day.

His sensorium cleared and became almost normal. Emotional reactions were adequate. Blood urea nitrogen was remarkably high, 240 mgs. percent, on the first hospital day and rose gradually to 334 mgs. percent on the fifth day. Intractable hiccups developed and were present day and night. At first they disappeared briefly with catheter stimulation of the nasopharynx and carbon dioxide inhalation. They lessened somewhat with thorazine mg. 25 every four hours. In spite of the disturbing hiccups and the rising urea nitrogen, mental processes were almost normal and the patient could discuss the family tragedy realistically. It was thought that the rising urea nitrogen correlated with increasing swelling of the left forearm and ascending gangrene.

By the fifth hospital day the temperature rose to 104.5 and chills developed. Extensive fasciotomy was done on the volar and dorsal aspects of the left forearm in an attempt to improve the impaired circulation. Homan's sign in the left calf was noted on the eighth day and anticoagulants were started. The temperature again rose to a high of 104.2 rectal. The hiccups, which improved following the fasciotomy, again became worse and areas of gangrene developed in the forearm. On the fifteenth day a guillotine amputation was carried out below the left elbow without interrupting anticoagulation. The radial and ulnar arteries were competent but entire muscle groups were necrotic and there was some liquefaction. A culture of one liquefied pool grew E. Coli. The hemoglobin dropped from 23½ gms. percent on admission to 8 gms. percent and six units of blood were given. Following the amputation the temperature dropped to normal and the hiccups ceased.

On the eighteenth day he rather suddenly became confused and apathetic. He refused medication and stopped feeding himself. Responses were limited to "yes" and "no." He stopped reading and stopped watching television. He became incontinent. He remained dull and disoriented for about a month and then gradually the sensorium began to clear and at the present time he appears lucid, has regained his former sense of humor, he has become realistic and shows normal emotional reactions. He walks well although there is some swelling of the left foot as a residual of thrombophlebitis. A prosthesis will be fitted to the amputated forearm. Presently, it appears that the patient will eventually return to gainful employment.

The eleven-year-old son was discharged from the hospital after 24 hours. Physical examination was normal and there was no neurologic deficit. He was discharged to the home of a neighbor and returned to school. His action and play activity were described as normal.

On the sixth day, he was found on the floor of the bedroom with a complete right hemiplegia including the muscles of the right side of the face. He was aphasic except that he could make a few vowel sounds. He could swallow and he fed himself with the dominant left hand. He seemed clear mentally, could follow instructions and gesture appropriately. Achilles and patellar reflexes were absent on the right and a right Babinski was present. The bladder was distended. Spinal fluid and electrolytes were normal. A complete blood count and values for blood urea nitrogen were normal. Skull x-rays were normal. He was seen in consultation by Doctor B. G. Church who carried out an electroencephalogram which showed "multiple spike seizure foci in the left hemisphere, maximal parietal."

He has been transferred to the Crippled Children's Hospital and School in Sioux Falls where an extensive rehabilitation program is going forward. He seems mentally alert and appears to comprehend well. He can read and write. He can count to 10 but he is likely to make a mistake or two. He can repeat any word but he can not yet construct a sentence. It appears that he will have to re-learn how to talk. He has learned to walk quite well although movements of the right arm and leg remain awkward. He is just

now beginning to get a little motion in the right hand and right foot.

In conclusion, we have presented four cases of carbon monoxide poisoning in one family exposed approximately sixty hours. The daughter was dead in bed. The mother, the most severely injured of the survivors was found comatose in bed. The father, who sustained less brain damage than the mother, had spent many hours on the floor, and the son who exhibited the least primary brain damage had spent some of the sixty hours in the basement. The dog who usually slept by the back door, a few steps below the first floor level, appeared undamaged. Since carbon monoxide is slightly lighter than air, it would seem that there would be a greater concentration at bed level than at floor level and a lesser concentration in the basement.

Each of the survivors exhibited rather sudden evidence of delayed brain damage, the son on the sixth day, the mother on the seventeenth day and the father on the eighteenth day.

In every case of unconsciousness, especially when all members of a family are involved, the possibility of carbon monoxide poisoning should be entertained.

In the matter of prevention, it should be remembered that carbon monoxide is a product of incomplete combustion. Heating systems should be installed and checked annually by people well-qualified in their field.

In the management of these cases, I wish to acknowledge my indebtedness to consultants, Drs. C. R. Roberts, Jr., Francis X. McCabe, Robert Henry of Brookings and B. G. Church, T. R. Anderson and Loyd R. Wagner of Sioux Falls.

AVERAGE U. S. INCOME RISES

Personal income reached new highs in every state during 1967, according to the U. S. Department of Commerce. Incomes averaged $3,137 per person, up $174 or almost 6 percent, from 1966. Since consumer prices increased 2.5 percent in 1967, the actual per capita gain was 3.3 percent. Per capita incomes ranged from $3,865 in Connecticut to $1,895 in Mississippi. On a regional basis, above-average income gains were reported in the Far West (8 percent) and in the Southwest and Midwest (both 7¼ percent).

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1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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Scientific PAPER

DESQUAMATIVE INTERSTITIAL PNEUMONIA

Serhij Sochocky, M.D.[x]
Sioux Falls, South Dakota

Depending on etiological factors pneumonia may be divided into several groups, e.g. bacterial, viral, mycoplasmal, rickettsial, fungal and due to parasites. Pneumonia may also be caused by physical, chemical factors and may be of undetermined etiology.

In 1965 Liebow[1] et al. in a series of 18 patients described a clinical picture of a pneumonia of lung distinct from other interstitial pneumonias and named it desquamative interstitial pneumonia. Gaensler[2] et al. reported a series of 12 patients with desquamative interstitial pneumonia in 1966. In both series were 17 males and 13 females mainly between 30 and 55 years of age. The main symptoms were an increased shortness of breath, dry cough, a pain in chest, loss of weight and general tiredness. Physical examination revealed distant breath sounds and rales in most cases. Routine laboratory findings were not remarkable. Vital capacity and maximum voluntary ventilation were often within normal limits. The common finding was a decrease in arterial Po_2 and an elevated alveolo-arterial oxygen gradient. Gross pathological findings varied and were described as normal lungs, fine nodular, or fibrotic lungs. Pleura was found to be thick and numerous blebs were also found. Radiological findings varied, chest X-ray often showed a ground glass opacification in basal parts of lungs or punctate and reticular opacities. The microscopical examination showed the lumens of alveolar spaces filled with masses of "large alveolar cells." Small lymphoid follicles were also seen in the lungs. Pleura was thick and edematous. The microscopical picture was uniform and there was an absence of necrosis, hyaline membranes or fibrin.

Illustrative Case.

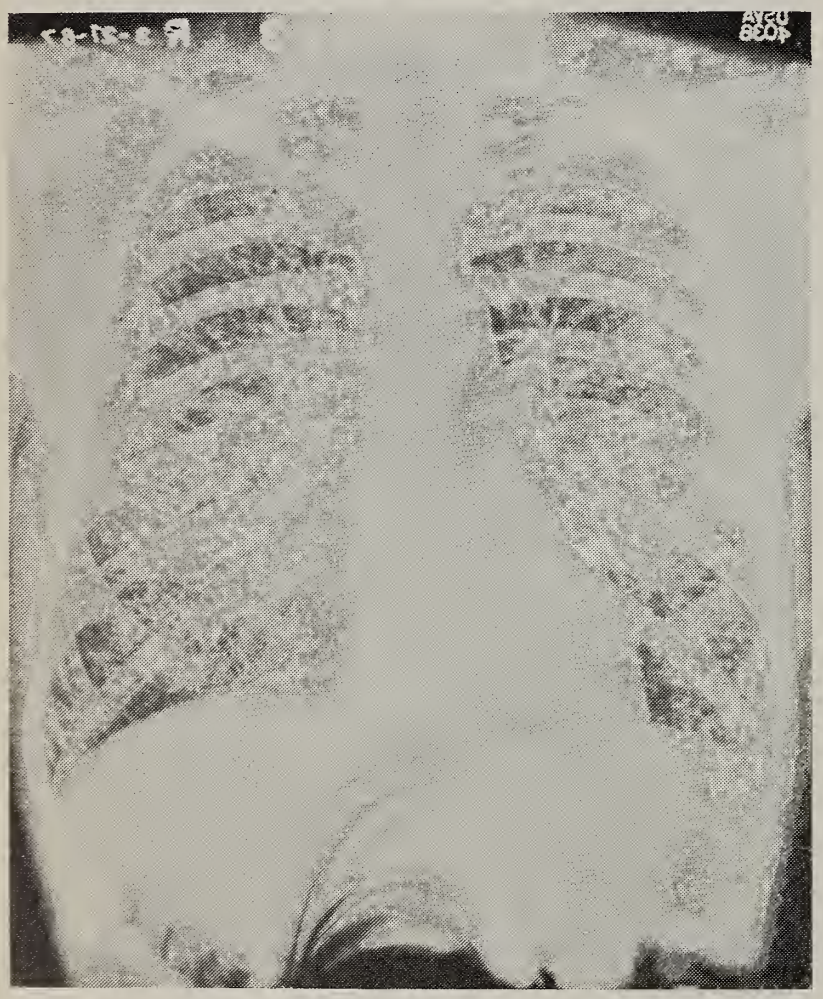
This 56 year old veteran admitted to this hospital on 3-24-67. He developed an increasing shortness of breath and a pain in his chest during the last year. He had a cough on and off and recently developed a purulent sputum but never coughed up blood. He had attacks of fever, chills and night sweats on few occasions and felt tired. Appetite good, lost about 12 lbs. during last 6 weeks. Bowels and micturition normal. Family history not contributory; wife and children healthy. He had been doing construction work, cement work for 15 years. Smoker, 2-3 packs cigarettes on average daily for as long as he could remember, social drinker of alcoholic beverages. Allergic to sulpha drugs.

Physical examination: revealed a well developed and nourished male in chronic respiratory distress. Cyanosis of lips and nailbeds, otherwise no evidence of heart failure. Respiratory movements fair and equal with distant breath sounds, no moist sounds. Heart sounds normal, pulse regular rhythm, blood pressure 110/70 mm. Hq.; pulses of all peripheral arteries felt. There was no clubbing of fingers and toes, and physical examination otherwise was not remarkable. Laboratory data: Urine analysis within normal limits. Hemoglobin 15 grams, white blood cells 7,900, neutrophils 62, bands 11, eosinophils 12, lymphocytes 22, monocytes 3. Sedimentation rate 58. Blood urea nitrogen,

[x]Department of Internal Medicine, Veterans Administration Center, Sioux Falls, South Dakota.

sodium, potassium chloride and glucose in blood within normal limits and alkaline phosphatase 22.9 K.U. Carbon dioxide combining power 76 volume per cent. Three blood cultures negative for aerobic and anaerobic bacteria. Serological test for syphilis and fungus infections negative. Electrophoresis of proteins showed increase in gamma globulin. Bone marrow biopsy not contributory. Tuberculin and histoplasmin skin tests negative but skin test for coccidiomycosis 16 mm. in diameter. The sputum showed Neiserie species and negative on direct smears and cultures for tubercle bacilli. Three sputa also negative for malignant cells and for fungus infections. Bronchoscopy showed mucosa throughout both sides of bronchial tree red and inflamed, more on the left. Scalene node biopsy on both sides not contributory. Electrocardiogram showed changes suggestive of cor pulmonale. Chest X-ray showed reticular shadows throughout both lungs (Figure 1).

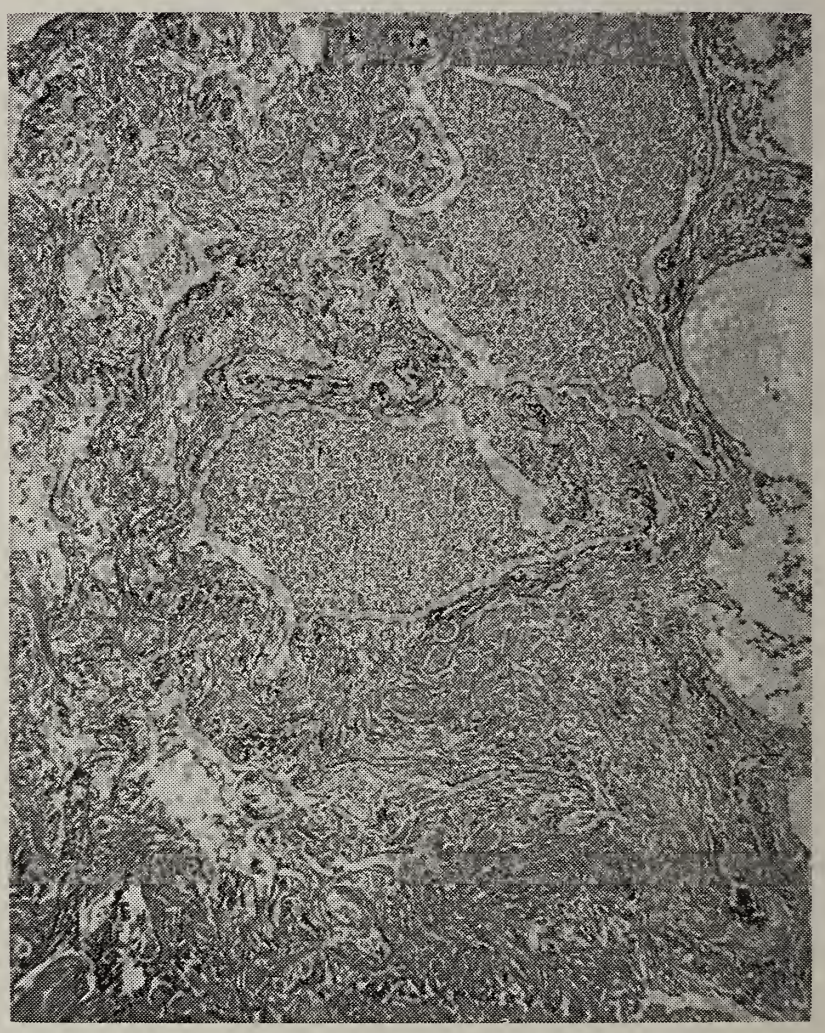
Figure 1.



Chest film on 3-15-67 shows fine reticular opacities throughout both lungs.

As a presumptive diagnosis of miliary tuberculosis was accepted he received isoniazid 300 milligrams daily, streptomycin 1 gram twice weekly, pyridoxine 50 milligrams twice daily. While in hospital he developed attacks of chills and temperature up to 104, lasting for 4 days, on two occasions. The temperature subsided after treatment with chloromycetin and penicillin. As his condition did not improve he was transferred to V.A. hospital in Minneapolis where thoracotomy was performed. Lung biopsy showed, "the sections of the lung demonstrated thickening of the pleura, in addition fibrous trabeculae projected to pulmonary tissues. The septa appear thickened, some loss of alveolar structure is also noted. There are numerous desquamative cells in some of these spaces. They appear to be septal. Occasional giant cells are encountered here, the material within the cells is occasionally positive on para-aminosalicylic acid stain. Organizing loose fibrous tissue is also occasionally stained. Biopsy consistent with chronic desquamative interstitial pneumonia." (Figure 2). These findings were confirmed by Dr. Liebow in Yale University.

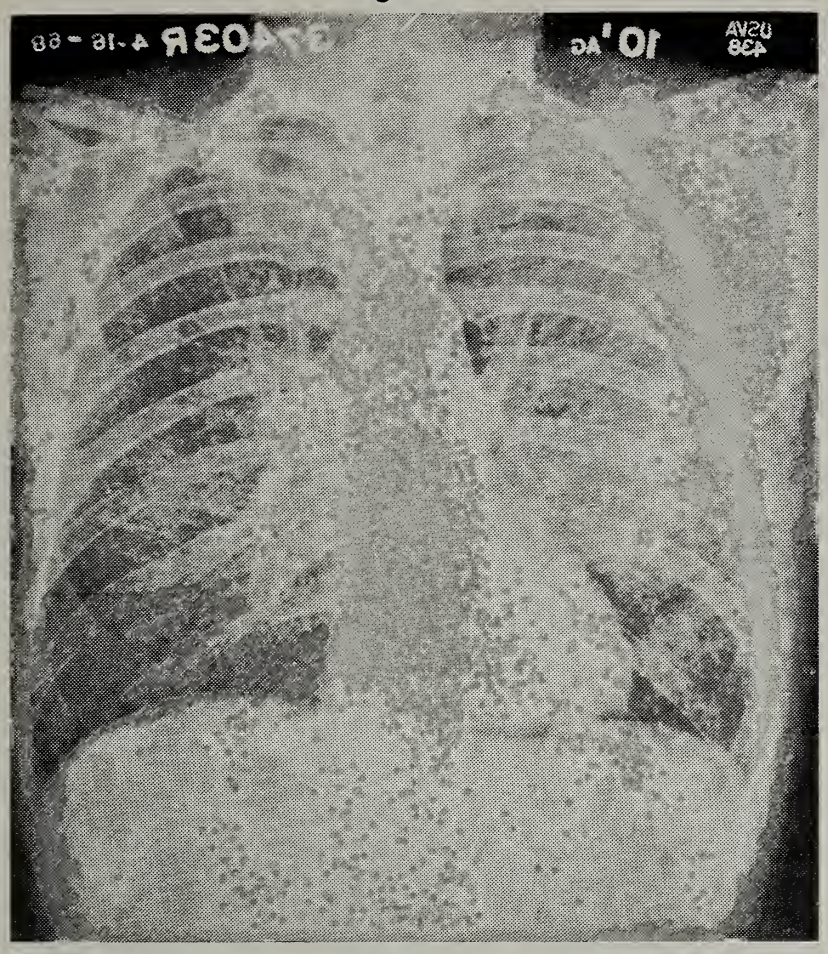
Figure 2.



Microscopical slide shows the walls of alveoli are thin with few lining cells. The lumen of alveoli are filled with alveolar cells.

Treatment: He received symptomatic treatment for first 24 months, however, later as his symptoms became worse he received a 6 weeks course of prednisone starting with 30 milligrams daily and slowly tapering off. Following this treatment he improved, he became less breathless and cyanosed. Chest film showed some improvement. (Figure 3).

Figure 3.



Chest film on 4-16-68 shows some improvement.

DISCUSSION

As there is no pathognomonic clinical sign or chest X-ray a variety of lung diseases should be taken into consideration in differential diagnosis. From systemic diseases sarcoidosis, pulmonary tuberculosis and collagen diseases should be considered. In sarcoidosis there may be an increase in serum protein, a reverse of albumin/globulin, elevation of globulin fraction and also increase of serum calcium in blood. Kveim test may be positive and scalene node or liver biopsy may show granulomatous tissue. In tuberculosis, especially in miliary form, there may be a history of contact, positive tuberculin skin test, sputum positive for tubercle bacilli and a good response to anti-tuberculous drugs. In pneumoconiosis a history of occupation may be of help. Alveolar cell carcinoma and lymphatic carcinoma of lungs should also be considered. Examination of sputum for malignant cells, bronchoscopy and scalene node biopsy will help in most cases. In collagen diseases multiple symptoms may be present and laboratory data and biopsy of muscle or skin may assist in diagnosis. However, the most common pneumonia which should be taken into consideration in differential diagnosis is a chronic interstitial pneumonia or Hamman-Rich syndrome of undetermined etiology. This disease may occur at any age. Chest X-ray shows reticular, linear or nodular densities with possible enlargement of mediastinal gland. Microscopical examination shows a diffuse extensive fibrosis, a presence of hyaline membrane lining alveoli and necrosis of alveolar and bronchial epithelium.

Pulmonary alveolar proteinosis, eosinophilic granuloma and idiopathic hemosiderosis are other clinical entities which should be considered in diagnosis. However, all three produce gross similarity in appearance in chest X-ray and diagnosis is reached chiefly by microscopical examination.

Desquamative interstitial pneumonia should be considered in differential diagnosis of miliary lung diseases. Pre-operative clinical diagnosis in 12 patients in series of Gaensler[2] varied from sarcoidosis, tuberculosis, histoplasmosis, silicosis, neoplasm, Farmer's lung, chronic unresolved pneumonia, virus pneumonia, mitral stenosis, pulmonary embolism and eosinophilic granuloma. In our reported case a pre-operative diagnosis was of miliary disease of the lungs of undetermined etiology.

In diagnosis, history, occupation, course of disease, laboratory data, sputum examination, bronchoscopy, scalene node biopsy may help but diagnosis has been made by lung biopsy.

Treatment: Symptomatic and steroids have been used in treatment of this pneumonia, with success. Gaensler[2] used cortico-steroids in 6 cases with improvement but a relapse occurred in every case when steroids were either omitted or reduced. The resumption of treatment with large doses of cortico-steroids resulted in improvement. Our patient received a course of steroids of 6 weeks duration starting with 30 milligrams daily and slowly tapering off, with improvement.

Desquamative interstitial pneumonia is of undetermined etiology, usually of insidious onset and runs a chronic course.

Follow up in patients with this pneumonia for 10 years[2] has been reported.

SUMMARY

1. A case of desquamative interstitial pneumonia described.
2. Clinical findings, diagnosis and treatment given.

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CLINICOPATHOLOGICAL CONFERENCE

From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Departments of Pathology of the Hospital and of the School of Medicine of the University of South Dakota

***John F. Barlow, M.D., F.C.A.P.**
Pathologist - Editor

****Jack W. Donahoe, M.D.**
Internist - Discusser

Forty-nine Year Old Woman With Jaundice

Case No. 433327

This 49-year old obese Caucasian female entered with a chief complaint of "yellow skin" of approximately four weeks duration. She was an alcoholic who had been under previous psychiatric care and admitted to two to three highballs to a fifth of bourbon per day for many years. She had been hospitalized for alcoholism several years previously. She had been drinking lately after a death in the family. This was sufficient to keep her mildly euphoric but not inebriated. Friends began to comment on the yellow cast of her skin approximately one month before admission. There was no history of drugs, hepatitis, or exposure to hepatotoxins other than alcohol. There was no abdominal pain, nausea, vomiting or change in stool color. The urine was intermittently dark. There was no history of blood transfusions or previous hepatitis.

Physical examination revealed a jaundiced lady in no acute distress but chronically ill. P - 82; R - 20; T - 98.6; B/P - 130/80. The sclerae were icteric. There were no spider angiomas. The heart and lungs were unremarkable. The abdomen was rotund but without fluid wave. The liver was massive, extending to the iliac crest in the right anterior axillary line and across into the epigastrium. The spleen was not palpable. Pelvic exam was negative.

Urinalysis was amber, cloudy, specific gravity 1.006, pH 6.0, 1+ protein; negative for ketone, blood, glucose. There were 50-100 wbc/HPF and 3-5 rbc/HPF and a moderate amount of hyalin casts in the sediment. Hgb. was 11.1 gm%, red blood count 3.21 million/mm^3, hct. 34%, MCH 34 micromicrograms, MCV 103 cubic micra, MCHC 33%, white blood count 12,100. The differential showed 62% polys, 7% bands, 1% eosinophils, 1% basophils, 14% lymphocytes, 9% monocytes, 3% metamyelocytes and 3% myelocytes. The red cells were normochromic with moderate polychromasia and a tendency to macrocytosis. Platelets were adequate; blood urea nitrogen was 9 mg%; cholesterol 470 mg%; CO_2 19 meq/L; sodium 148 meq/L; potassium 3.9 meq/L; chloride 112 meq/L. Serology was non-reactive. Bilirubin was 31.3 mg% with indirect of 1.3 mg% and direct of 30 mg%. The thymol turbidity was 2.9 units; SGPT - 42 units, LDH 380 units and alkaline phosphatase 5.4 units (normal 0.8-2.3). SGOT was 94 units. Prothrombin time was 12.0 seconds with a 12.0 second control. Electrophoresis showed a total protein of 6.5 gm% with a 3.60 gm% albumin, 0.41 gm% alpha-1, 0.60 gm% alpha-2, 0.83 gm% beta and 0.97 gm% gamma globulin (values within normal limits). A barium enema was normal and an upper gastrointestinal series was normal except that a 1.0 cm. calcification was seen near the duodenal bulb. This was interpreted as a gallstone. A gallbladder series showed non-visualization. The chest film was normal. An exploratory laparotomy was performed.

Dr. Jack Donahoe: Before going into the discussion, I would like to know if certain other tests and findings are available. In particular, I would like to know values for the serum lipids, serum ammonia, reticulocyte count, bromsulphalein retention, urine and fecal urobilinogen,

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serum iron, red cell fragility, and the direct Coombs. I would also like to know whether a liver scan was done?

Dr. William O. Rossing:** A total lipid determination was done post-operatively and was 315 mg% (within normal limits). A serum ammonia determination was done post-operatively and was 111 micrograms% (normal 40-60 micrograms%). A liver scan was not done because the procedure was not available to us at that time. The reticulocyte count and serum iron were not performed. A Coombs test was not done. The bromsulphalein test was not done because the patient had deep jaundice.

Dr. Donahoe: I would also like to know whether the patient had fever during her course.

Dr. Rossing: Yes. The patient did exhibit fever up to 101 preoperatively.

Dr. Donahoe: Thank you, Dr. Rossing. In reading over the protocol my superficial impression was that this is a patient with nutritional cirrhosis on an alcoholic basis. However, there is a calcification seen on x-ray that could be a gallstone and the liver function tests show a pattern more consistent with obstructive jaundice than parenchymal jaundice. The patient's blood smear showed some macrocytosis as well as immaturity of the white cells. No spherocytes were seen. She also showed pyuria.

Let us elaborate upon some of the differential points of diagnosis of jaundice. This patient has a typical alcoholic history and had no history that would be suggestive of hepatitis. She has a past history of liver failure, probably due to alcoholism. She recovered from this presumably on the basis of cessation of alcohol intake and better nutrition, but then developed deep jaundice at a later date, presumably due to a marked increase in the alcohol intake and poor nutrition. A diagnosis of viral hepatitis is unlikely from available laboratory data and as mentioned above from historical material. I would expect the SGPT and SGOT to be much higher if this were viral hepatitis and I would not expect the cholesterol or alkaline phosphatase to be very elevated. There is no history of blood transfusions or transfusion of other blood products so I feel we can rule out a homologous serum jaundice.

Although the diagnosis of nutritional cirrhosis is most likely, one does wonder about biliary cirrhosis because of the obstructive pattern in the laboratory tests and also because of the x-ray finding of calcification. There is no splenomegaly as is often present in biliary cirrhosis. Spider angiomata, a frequent finding in cirrhosis are not present. There are no changes in secondary sexual characteristics, but these are usually present in the male and include gynecomastia and testicular atrophy. There is often ascites but our patient was quite obese, and I am sure it would have been difficult to discern a small amount of ascitic fluid. The urinalysis revealed proteinuria 2+ and pyuria. There also were a few red cells and hyalin casts. Diffuse glomerulonephritis has been described in association with Laennec's cirrhosis, but I suspect the patient has an unrelated urinary tract infection. I think that a post-hepatitic or post necrotic cirrhosis would be rather unlikely here in view of the fact that there is not an increased gamma globulin or decreased albumin, which is frequent in these forms of cirrhosis. Also there is no history of previous hepatitis. MacKay has reported a lupoid type of hepatitis in which the patient may have proteinuria and hematuria and a fluctuating type of jaundice. However, this is usually associated with marked hyperglobulinemia.

In the differential diagnosis of obstructive jaundice, we must think of stone, stricture, and tumor. There is no history of previous operation so it is unlikely that the patient had a stricture which is usually caused from operative trauma. We do have a calcification present which may represent a stone in the common bile duct and could be the etiologic factor for jaundice here. I would think that the obstruction is not very long standing or I would expect more liver damage with higher values for the enzymes than are present here. I cannot completely exclude carcinoma of the head of the pancreas or carcinoma of the ampulla of Vater. Was a leucine aminopepitidase performed?

Dr. Barlow: No, I do not find one in the record.

Dr. Donahoe: I think one must also consider the diagnosis of hepatoma superimposed upon cirrhosis; it is a little uncommon in this age group and is less common in females.

Therefore, by exclusion and intuition my diagnosis is, cirrhosis of the liver, mixed nutritional and biliary type with a macrocytic, hemolytic anemia, Zieve's type II. Let me explain how I arrived at this diagnosis. The history and laboratory findings are compatible with a cirrhosis of the liver. Dr. Leslie Zieve of the University of Minnesota published a paper in Medicine in 1966, in which he described two

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types of hemolytic anemia occurring in cirrhosis. One was due to hypersplenism, (I might note that the spleen was not enlarged in this case). The second he called the hyperlipidemic variety. He contrasts the two types as follows: "(1) Clinically, functionally, and anatomically the illness in the first or hypersplenic variety is typically moderate or severe, and in the second or hyperlipidemic variety is mild. (2) Fatty infiltration of the liver is infrequent in the first and frequent in the second. (3) Hepatomegaly tends to be variable in the splenic group where small livers may be seen, but is almost invariably marked in hyperlipidemic group because fat mobilization has occurred. (4) Splenomegaly is prominent in the first variety and absent in the second. (5) Blood lipids are normal or decreased in the first group and increased in the second. (The blood lipids are reported as normal here. Could the lab be wrong?) (6) Hemolysis is usually prolonged in the hypersplenic and brief in the hyperlipidemic patients. The bilirubin ratio is often decreased in the splenic group, but not in the lipidemic group. (7) Fragility of red cells was generally normal in the first variety, but often increased in the second. (8) Erythroid hyperplasia of the bone marrow is variable, but generally significantly increased in both groups. (9) The illness of the hypersplenic patient is prolonged, as a rule; that of the lipidemic patients typically brief. (10) Finally, improvement with treatment is characteristically slight or absent in the first variety, and spontaneous and marked in the second (hyperlipidemic)." Dr. Zieve feels that the presence of abnormal lipids in increased amount is responsible for the hemolytic anemia. The cephalin flocculation and thymol turbidity tests are normal in people with the hyperlipidemic type of hemolysis. The cephalin flocculation was not performed in this case. Immature white cells can appear in either type and a Coomb's test, direct and indirect, is negative in both types of hemolytic anemia. So my final diagnoses are:

1. CIRRHOSIS OF THE LIVER, NUTRITIONAL AND BILIARY TYPE ACQUIRED HEMOLYTIC ANEMIA, (ZIEVE TYPE II).
2. COMMON DUCT STONE.
3. CARCINOMA OF PANCREAS OR AMPULLA OF VATER.

Dr. Barlow: Are there any further diagnoses or questions on this case?

Dr. Dennis Jacobson*: Wasn't the direct bilirubin rather high for a hemolysis in this case?

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Dr. James Felker:** In uncomplicated hemolytic anemia, it is usually the indirect fraction of the bilirubin which is elevated, but this is rarely above 3 mg%. In a patient with liver disease of this sort I think it would be difficult to use the bilirubin as a differential point. I would think that you could see this pattern of bilirubin in either obstructive or parenchymal jaundice.

Dr. Warren L. Jones*: Was a needle biopsy of the liver considered in this case?

Dr. Rossing: Yes it was; however, the patient did have definite signs of obstruction and obstructive jaundice of this degree is a contraindication to liver biopsy. In fact, I have had a bile peritonitis occur in patients in whom I have done a liver biopsy in the face of obstruction. Therefore, an exploratory laparotomy was felt to be the procedure of choice seeing as there may have been a remediable cause of obstruction.

Dr. M. J. Padwick†: What was the preoperative diagnosis?

Dr. Rossing: Nutritional cirrhosis of the liver complicated by extrahepatic obstruction probably due to stone.

Dr. H. J. Fletcher*:** Was there history of drug ingestion in this case?

Dr. Rossing: No, none other than alcohol. The patient did take Librium, but this was after the time of the onset of the jaundice.

Dr. Jacobson: Did the patient have decrease in body hair?

Dr. E. S. Kahler**:** The finding of pectoral alopecia in patients with cirrhosis is common, but I doubt that it is due to the cirrhosis per se. I, as well as others, have questioned the patients on this and it's interesting to find the patient never had much hair to begin with.

Dr. Felker: Some have wondered whether there isn't a predisposition to cirrhosis in people with pectoral alopecia.

Dr. Barlow: While we are on the subject of the endocrine changes, I believe, that the sexual changes of testicular atrophy, decreased libido, and gynecomastia have been attributed to decreased detoxification of normal estrogens by the diseased liver with hyperestrinism in these

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patients. This explains why the symptoms are only in males. Dr. Rossing, will you describe the findings in surgery.

Dr. Rossing: Yes. The surgery was done by Dr. Wallace A. Arneson. I will summarize his operative note. The liver was not hob-nailed — it was yellowish in color. A general exploration of the abdomen was negative. The gallbladder contained one calculus about 1 cm. in diameter. The common duct was visualized with some difficulty because of dilation of veins in the area. However, the common duct was not distended. The head of the pancreas felt normal. There were no stones felt within the common duct. Because of the patient's history and physical findings it was still felt wise to do a cholecystectomy and common duct exploration. The common duct was patent and dilators were passed with ease into the duodenum up to a #7 dilator. The catheter was passed with ease into the duodenum. The gallbladder was removed without difficulty and contained one stone.

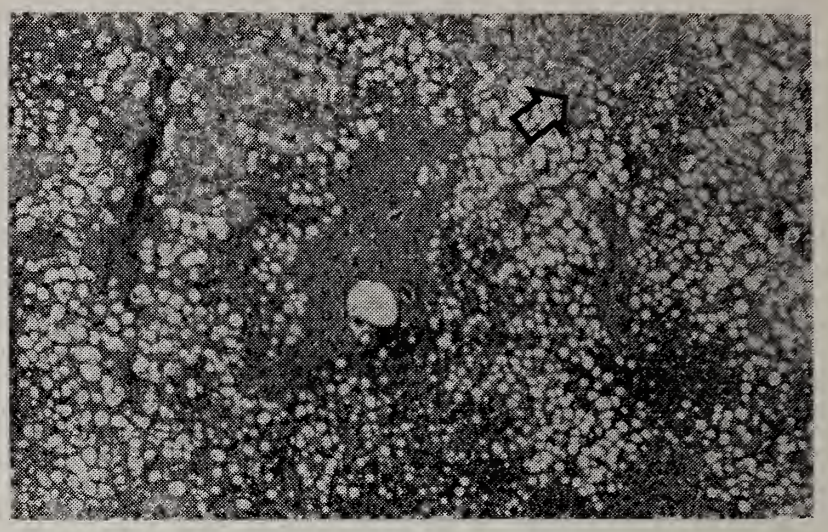
Post-operatively the patient developed many complications including hypotension, hyponatremia and hematemesis. She eventually slipped into hepatic coma and died approximately two weeks after surgery.

PATHOLOGIC DISCUSSION

Dr. Barlow: I will first describe the surgical specimen taken at operation. We received a gallbladder which showed chronic cholecystitis and a solitary 0.9 cm. in diameter gallstone. Also present was a liver biopsy. The findings are illustrated in the following photomicrographs (Figures I, II). There is marked fatty metamorphosis of the liver and early fibrosis both in the portal and central areas with bands of fibrous tissue extending out in a stellate pattern. There is focal necrosis of liver cells with areas of polymorphonuclear leukocytes. Bile stasis is present. In many sections you can see a red, irregular stranded paranuclear structure. This is alcoholic hyalin as described by Mallory. This biopsy is compatible with an early active, nutritional cirrhosis.

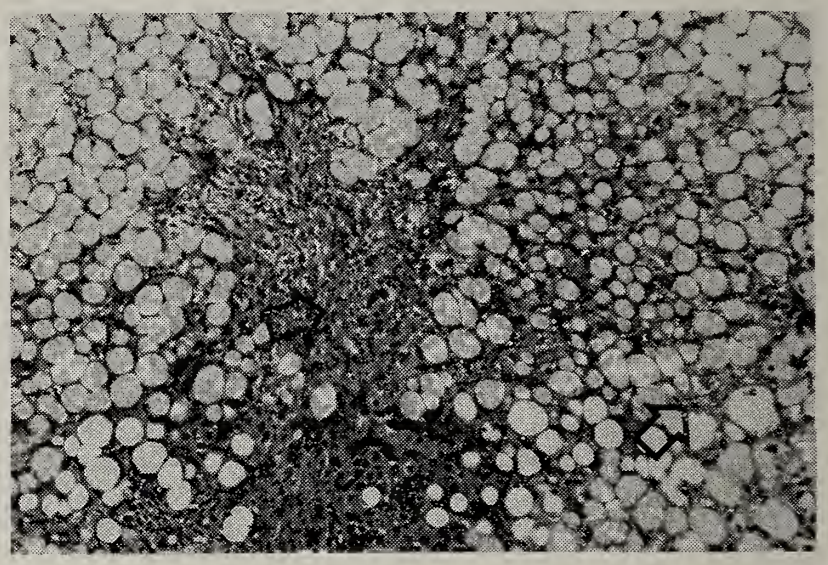
At autopsy the most striking finding was in the liver. The liver was huge, weighing 2750 grams which is approximately twice normal size (Figure III). The liver was yellow and greasy and had a slightly increased consistency. In addition there was massive upper gastrointestinal hemorrhage which issued from esophageal erosions. The microscopic findings in the liver were similar to those of the biopsy specimens.

Figure I.



Note marked fatty change and irregular bands of fibrous tissue. Arrow points to area of acute necrosis with polymorphonuclear leukocytes.

Figure II.



Note stellate configuration of scar tissue. Arrow in lower right points to alcoholic hyalin, center arrow points to area of bile stasis, the histologic counterpart of the obstructive picture in the liver chemistries.

Figure III.

Enlarged finely nodular liver (bright yellow in color) characteristic of steatonecrosis.

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Dr. Donahoe: What did you find in the kidneys?

Dr. Barlow: The kidneys were unremarkable both grossly and microscopically except for bile casts or so called biliary nephrosis. This histologic picture is seen in anyone with deep jaundice due to conjugated bilirubinemia.

The entity which this patient exhibited is not an uncommon one. The illness occurs as a superimposed acute illness during the course of chronic alcoholism. There is usually a large fatty liver with alcoholic hyalin (Mallory bodies). The age range of the disease is from 30-70 with more males affected than females. The disease has many names. Steatonecrosis was the name chosen by Harinasuta et al[1] in a recent review in "Medicine." Other names include florid cirrhosis, acute alcoholic hepatitis, acute liver disease of the chronic alcoholic, acute hepatic insufficiency of chronic alcoholics, fatty liver with hepatic failure in alcoholics and sclerosing hyalin necrosis of the liver. The authors of the above article point out that although the disease is serious and frequently fatal, the patient often recovers. In the above paper is included an autopsy as well as a biopsy series. The patients in the latter series survived this disease. Some of the cardinal clinical features are illustrated in the following chart. Note that the more serious symptoms have a much higher incidence in the autopsy series. All patients had an enlarged liver and were chronic alcoholics. Some degree of fever and leukocytosis was usual.

CLINICAL FEATURES

	Autopsy%	Biopsy%
Jaundice	81	53
Ascites	72	32
Peripheral edema	64	28
Hepatic Coma	57	9
Collateral Venous pattern	53	23
Spiders	40	23
G.I. Bleeding	94	14

The laboratory data can be confusing. The BUN may be elevated especially in the more seriously ill cases. The total bilirubin is above 5 mgs% in over 50% of the cases and can be over 15 mgs% as in this case. The SGOT (serum glutamic oxaloacetic transaminase) is elevated but usually not over 250 units. The SGOT is usually higher than the SGPT (serum glutamic pyruvic transaminase). In most other acute parenchymal diseases such as acute infectious hepatitis, the transaminases are much higher. The LDH (lactic dehydrogenase) is often raised and the hepatic fraction is elevated in determination of the LDH isoenzymes. The serum albumin is often depressed and the gamma globulin elevated. In this case the electrophoresis did not show either of these changes. Another important laboratory finding is the frequent prolongation of the prothrombin time. The alkaline phosphatase may be slightly elevated or markedly elevated. In the latter instance a complete obstructive pattern in the liver function tests occurs. The total cholesterol also may be increased. This obstructive pattern has a histologic counterpart in the cholestasis frequently seen on biopsy or at autopsy.

The histologic pattern is quite characteristic and is illustrated nicely in this case. There is frequently abundant fatty change. The fibrosis, acute necrosis with polymorphonuclear and characteristic alcoholic hyalin complete the picture.

Dr. Felker: What happened to the calcification on the x-ray?

Dr. Barlow: It was the gallbladder stone most likely. It could also have been focal calcification in the pancreas or in an abdominal lymph node.

Dr. Rossing: The calcification disappeared after surgery. I doubt that by its configuration it could have been anything but the gallbladder stone.

Dr. Jones: What worries me is what can the clinician do faced with such a situation? There are obstructive chemistries. The liver biopsy is frequently contraindicated.

Dr. Barlow: I suppose one could wait and see if the patient responded to diet and rest before attempting surgery.

Dr. Felker: Schiff in his textbook on liver disease suggests a trial of steroid therapy. In this disease the jaundice will improve but obstructive jaundice will not improve on steroids.

Dr. Barlow: I might add here that the series I discussed show a high incidence of elevated reticulocyte counts. Hemolytic anemia occurs frequently in steatonecrosis. However, there is not always hypersplenism or hyperlipidemia. This has also been shown by others. There is even a hemolytic anemia in Laennec's cirrhosis characterized by spur cells. Other types of anemia that can occur in liver disease include blood loss anemia from gastrointestinal hemorrhage, megaloblastic anemia secondary to folic acid deficiency usually on a nutritional basis, and the so-called macrocytic anemia of liver disease. The latter is seen in any chronic liver disease and has a hemolytic component as well

as decreased marrow production. Hypersplenism, hyperlipidemic hemolytic anemia and spur cell anemia have already been mentioned.

FINAL DIAGNOSES

1. Steatonecrosis of liver (florid cirrhosis) with early active nutritional cirrhosis.
2. Massive upper gastrointestinal hemorrhage.
3. Esophageal erosions, multiple.
4. Pulmonary congestion and edema.
5. Meningioma, (1.5 cm.) right cerebellar hemisphere.
6. Biliary nephrosis.

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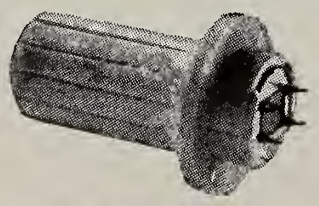

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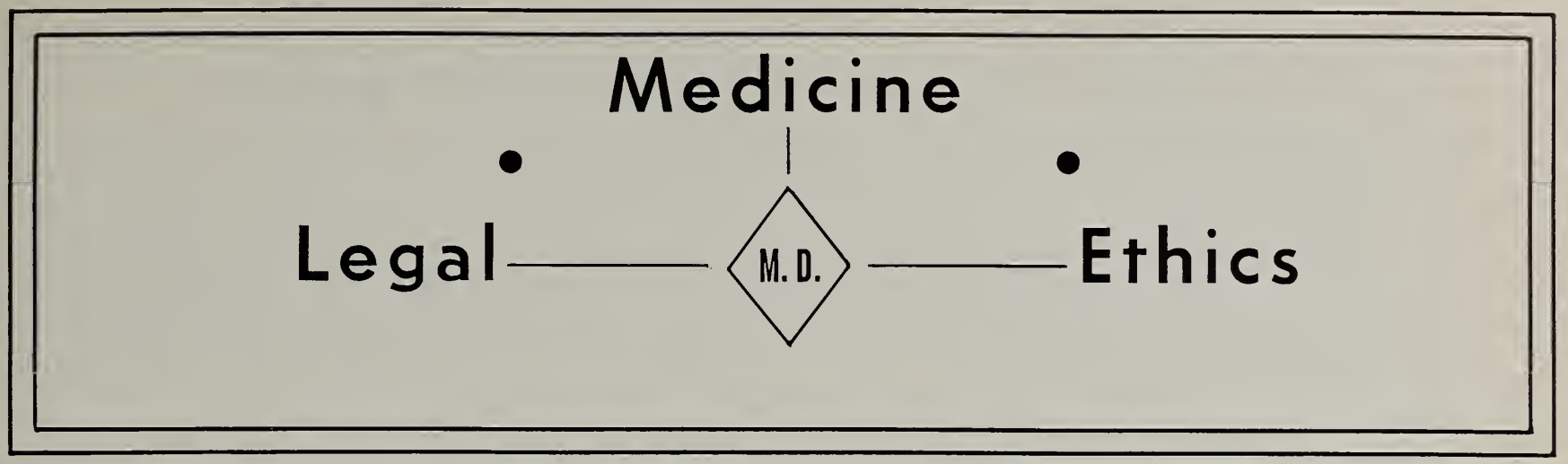


PROFESSIONAL GROUP HELD TAXABLE AS CORPORATION

The Treasury Department's so-called **Kintner** regulations, restricting professional groups in obtaining the tax advantage of corporations, have been declared invalid by a federal trial court. The ruling, permitting an association of lawyers to be taxed as a corporation rather than as a partnership, is the first court decision on the validity of the regulations. The court added that this particular association, which was incorporated under the laws of Colorado, would qualify for taxation as a corporation even if the regulations were valid.

* * *

PHYSICIANS NOT LIABLE FOR DEATH FROM RUPTURED APPENDIX

A trial court properly granted two physicians' motion for summary judgment in a suit against them for damages for a patient's death from a ruptured appendix following surgery, a Texas intermediate appellate court ruled.

The complaint alleged that the physicians were negligent in that they failed to operate for four days before the surgery was actually performed, although they knew or should have known that surgery was necessary, or alternatively, that they were negligent in operating when the patient's condition was in an advanced stage of deterioration, without taking proper steps to prevent the spread of infection. There can be no recovery against a physician for malpractice, either in diagnosis or treatment, in the absence of proof by a physician of the same school of practice that the diagnosis or treatment constituted negligence, and that such negligence was a proximate cause of the patient's injuries. There was no such proof here.

* * *

Information provided by the law department of the American Medical Association, 530 N. Dearborn, Chicago, Ill.

FACT ISSUES RAISED IN SUIT FOR DEATH DURING LABOR

A physician and a hospital were not entitled to summary judgment in a suit against them for damages for a patient's death during labor as the result of a pulmonary edema due to amniotic fluid embolism. The evidence raised issues of fact as to whether the physician and the hospital were negligent in their care and treatment of the patient, a Florida appellate court ruled. Therefore, the trial court erred in granting summary judgment.

The physician gave the patient pitocin to induce labor. She began to go into labor and was admitted to the hospital at 5:30 p.m. On the physician's order, a nurse gave her pitocin at regular intervals until 9:30 p.m. Her labor proceeded slowly but normally until 12:15 a.m., at which time she was given an injection of Demerol and scopolamine on the physician's order. Within 30 seconds her face began to darken and her head hyperextended. She died 30 seconds later of amniotic fluid embolism. A caesarean performed by the physician in an attempt to save the child was unsuccessful.

A material issue of fact existed as to whether the physician was negligent, in view of the patient's weight problem and prior history of miscarriages, in administering pitocin to induce labor without obtaining an obstetrical consultation, which might have led to a caesarean. As to the hospital, an issue of fact existed as to whether it had exercised the higher standard of care required by the fact that the patient was in labor and about to deliver a child.

* * *

USE OF PHYSICIAN'S NAME IN CONNECTION WITH CIVIC ENTERPRISES

The Judicial Council does not believe that the use of a physician's name in connection with a civic project should, in itself, be considered contrary to the Principles of Medical Ethics.

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

FREE THYROID HORMONES
"FREE THYROXINE"

As discussed in **PathCAPsule** No. 8 the serum protein bound iodine consists primarily of thyroxine (T_4 90%) and triiodothyronine (T_3 5%). These compounds are bound reversibly to serum proteins, primarily the thyroid binding globulin. Approximately 0.1% of T_4 and 1.5% of T_3, however, are unbound and are referred to as "free hormone." It is the level of this free component that regulates an individual's metabolic status, i.e. increased levels of free hormone, commonly called free thyroxine, lead to hyperthyroidism and decreased levels of free thyroxine lead to hypothyroidism.

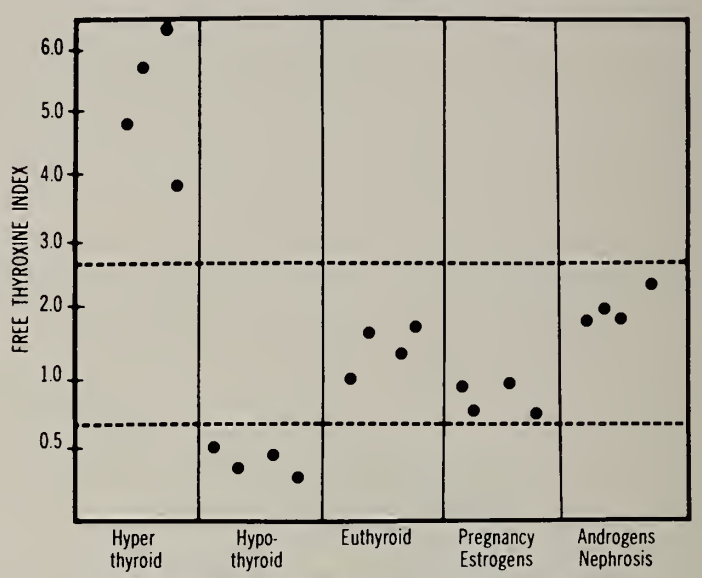
As discussed in **PathCAPsule** No. 51 there are many factors which alter the level of the thyroid binding protein in the serum without affecting the level of free hormone. Although these produce variations in the PBI, T_3 and T_4 which do not relate to thyroid disease **per se** they do negate the validity of these tests with respect to the patient's metabolic state. Since the level of free hormone is normal in many of these cases these patients are euthyroid. The measurement of free thyroxine, therefore, would serve as a very useful parameter in evaluating thyroid disease. In fact, all the currently available tests are aimed at providing, indirectly, information concerning the level of circulating free thyroxine.

The current methodologies utilized in the measurement of free thyroxine are indirect methods which ultimately involve the measurement of total serum thyroxine iodine. Therefore, the free thyroxine cannot be estimated in those instances when the serum is contaminated with organic iodine or in those instances in which the serum thyroxine level is altered by non-thyroid states, the very factors which lead one to desire evaluation of the free thyroxine in the first place.

Recently, Clark & Horn[1] have suggested the use of a free thyroxine index as an arbitrary numerical expression presumed to be proportional to the concentration of free thyroxine. The index represents the product of the PBI and the T_3 resin uptake. In euthyroidism, including pregnancy, it was observed that the PBI and T_3 uptake deviate from normal in opposite direction. Likewise, in nephrosis the deviations are in opposite directions. However, the product of these parameters in these euthyroid conditions give an index that is within normal range. In hyperthyroidism and hypothyroidism the free thyroxine index is altered in such a manner as to accurately reflect the metabolic status of the patient.

Other laboratories[2] have confirmed these observations and there is now agreement that the concept of a free thyroxine index is useful in the interpretation of clinical conditions that give rise to discordant results between the T_3 uptake and serum protein bound iodine. It may also be helpful in the evaluation of borderline cases of hypo or hyperthyroidism. Its usefulness is enhanced[2] if the T_4 by column determination is used in the place of the PBI.

FIG. 1



THE FREE THYROXINE INDEX USUALLY REFLECTS THE TRUE METABOLIC STATUS.

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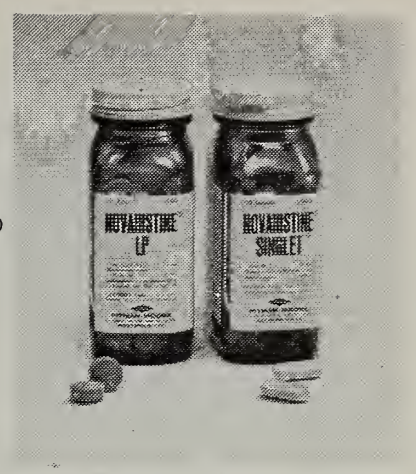
MD FEES INCREASE LESS IN CALIFORNIA THAN IN U. S.

Physicians' fees in California rose less in 1967 than in the rest of the United States, according to a recent report of the bureau of research and planning, California Medical Association. These fees rose 4.0 percent in the state while the U. S. Bureau of Labor Statistics reported a national increase of 5.9 percent during 1967.

Some U.R.I. patients are more miserable than others.

That's why we make Novahistine® tablets in two different formulations.

And let you control the dosage.



Each Novahistine LP tablet contains phenylephrine hydrochloride, 25 mg.; and chlorpheniramine maleate, 4 mg.
Each Novahistine Singlet tablet contains phenylephrine hydrochloride, 40 mg.; chlorpheniramine maleate, 8 mg.; and acetaminophen, 500 mg.

With Novahistine LP tablets and Novahistine Singlet™ tablets you have the range and flexibility of decongestant dosage that lets you prescribe for the needs of the individual patient.

Novahistine LP tablets are most useful for relief of nasal congestion in patients without pain or fever. Novahistine Singlet tablets, which provide analgesic-antipyretic effect, as well as decongestant action, are indicated for upper respiratory infections accompanied by pain, aches and fever.

Whether you prescribe Novahistine LP or Novahistine Singlet, a total daily dose of 3 or 4 tablets will usually provide effective, continuous relief.

Use cautiously in patients with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result.

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"Nothing else I've tried seems to work, so I decided to give you a crack at it."

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE — September, 1948

DR. EYRES TO CHECK "U." PERSONAL HEALTH

Personal health of each student at the University of South Dakota will be the chief concern of Dr. Thomas E. Eyres, M.D., who has joined the staff to direct the new University student health center, according to President I. D. Weeks. Dr. Eyres also will teach courses in public health in the School of Medicine as professor of public health.

Employment of a full-time physician at the University has been deemed necessary because of the dual function of teaching in the School of Medicine and running of the health center that such a staff member can perform, President Weeks said. Dr. Eyres has had ten years experience as a private practitioner and came to the University from the University of Minnesota where he has been taking graduate work in public health for the past year. He received his degree in medicine from the University of Iowa in 1932 and his master of public health from Johns Hopkins University in 1937.

* * *

35 DOCTORS GET S. D. LICENSES

Thirty-five physicians were licensed by the state board of health to practice in South Dakota.

They raise to 451 the number practicing in the state, an increase of 113 since the low of 338 was recorded in 1945, said Dr. G. J. Van Heuvelen, state superintendent of health.

Twenty physicians were licensed by reciprocity and 15 by examination.

DRS. PERRY AND SANDERS BUY AIRPLANE

Drs. E. J. Perry and M. E. Sanders (Mrs. Perry) of Redfield, South Dakota have purchased a Stinson Reliant airplane. They use this plane for both business and pleasure having flown to the AMA convention in Chicago this year.

Dr. Sanders learned to fly during the last year and is a fully licensed pilot while Dr. Perry has been flying for some time.

* * *

Excerpt from "Let's Strengthen Our District Societies"

by R. G. Mayer, M.D.

With the approach of fall comes the time for renewed activity in our District Medical Societies. For a number of years most of the District Societies in South Dakota have been notoriously weak. They have failed to function as they should for various reasons: — lack of interest by officers and members, uninteresting meetings without much appeal for encouraging full attendance, districts large in area with members separated by long distances and with small rosters, many members more interested in other organizations both lay and professional, and just general inertia.

It is high time that every physician in South Dakota take an active interest in his District Medical Society. The County and District Societies are the grass roots of organized medicine. They must be strong if we are to win the battles which lie ahead.

HEALTH SCIENCES LIBRARY

OLIN A. KIMBLE, M.D.

Olin A. Kimble was born at Carbondale, Kansas, January 13, 1878, and passed away at his home in Murdo, South Dakota, August 24th at the age of 70, after an illness of 18 months.

* * *

DR. KARL MEYER TO SPEAK

Dr. Karl Meyer, professor of Surgery at Northwestern Medical School, will be one of the speakers at the Cancer Symposium to be held in Sioux Falls October 11, 12, and 13, 1948.

* * *

FARMER'S AID CORPORATION SETTLES ACCOUNTS

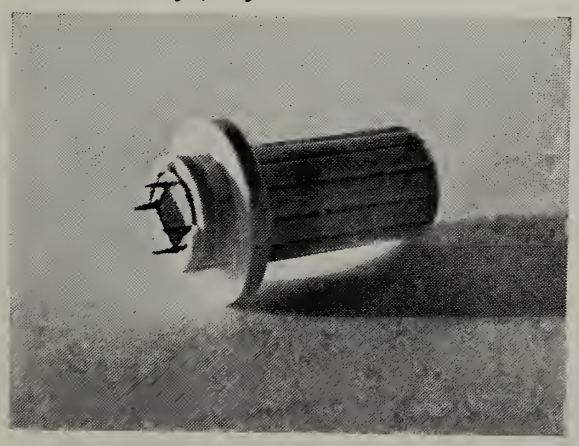
The Farmer's Aid Corporation, which functioned in South Dakota for several years before the war, settled its final accounts on August 25.

Assets of $6,553.37 were listed and the Courts allowed attorney's fees and trustees' expenses reducing money for distribution to $4,706.00. The Medical Association's share of this is approximately $2,400.00.

Waivers of claim to individual apportionment have been circulated by the South Dakota State Medical Association and were presented to the court by the Association's executive-secretary, J. C. Foster.

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.



TUBERCULIN, TINE TEST (Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

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Parepectolin for quick relief of acute diarrhea
...soothes colicky pain with paregoric*
...consolidates fluid stools with pectin
...adsorbs irritants with kaolin,
and protects intestinal mucosa

In children, Parepectolin may be used to control diarrhea promptly and prevent dehydration, until etiology has been determined. In some cases, Parepectolin may be all the therapy necessary.

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Each fluid ounce of creamy white suspension contains:
*Paregoric (equivalent) . . . . . (1.0 dram) 3.7 ml.
Contains opium (¼ grain) 15 mg. per fluid ounce.
warning: may be habit forming
Pectin . . . . . (2½ grains) 162 mg.
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Prescribing information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Side Effects/Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

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ANNOUNCING
THE ELEVENTH CONGRESS
OF THE
PAN-PACIFIC SURGICAL ASSOCIATION

Dates:
October 14-22, 1969 (following the meeting of the American College of Surgeons in San Francisco, October 6-10, 1969).

Place:
Honolulu, Hawaii.

Program:
The scientific program will consist of some 350 speakers in all surgical specialties. Concurrent meetings will be held in Colon and Anorectal Surgery, General Surgery, Neurosurgery, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic Surgery, Thoracic-Cardiovascular Surgery and Urology. Included in the program will be meetings in Anesthesiology and Radiology.

Schedule:
All scientific meetings will be held in the morning, leaving afternoons free for sightseeing and social events. It is strongly recommended, therefore, that you bring your family with you to take advantage of this combined scientific meeting and family holiday.

NORTH DAKOTA INTERNISTS SCHEDULE SCIENTIFIC MEETING

Specialists in internal medicine in North Dakota will hold a scientific meeting, Sept. 7, in Fargo, N. D. under the auspices of the American College of Physicians (ACP).

The session is one of 33 scientific-educational meetings the ACP sponsors during the academic year. Held throughout the United States and Canada, the meetings help the College's 14,300 members keep abreast of developments in basic sciences and clinical medicine.

The meeting is under the general direction of Robert M. Fawcett, M.D., Devils Lake, N. D., ACP Governor for North Dakota.

* * *

Calendar Listing

American College of Physicians (North Dakota Regional), Fargo, N. D., Sept. 7. INFO: Robert M. Fawcett, M.D., 512 4th St., Devils Lake, N. D.

W. L. MEYER, M.D.

W. L. Meyer, M.D., Custer, died June 26, 1968. Dr. Meyer came to South Dakota in 1939 as assistant medical director at Sanator and became superintendent in 1941. He had served on the Board of Directors of the South Dakota Tuberculosis Association since 1942. In 1960 Dr. Meyer joined the staff of the Veterans Hospital in Hot Springs where he was employed until his retirement this spring.

THE MONTH IN WASHINGTON

The American College of Radiology, defending the current use of x-rays by physicians, criticized published scare stories for causing unwarranted fears of x-ray examinations.

Dr. Richard H. Chamberlain, a spokesman for the college, said such articles as one in a recent issue of the Ladies Home Journal distorted the facts in such a manner that it added up to "one of the most tragic things in medicine" by scaring people as to the possible effects of being x-rayed. Dr. Chamberlain said usage of x-rays by physicians in this country is "remarkably good."

"The risks to patients in the performance for medical x-ray examinations are vanishingly small," he said. "Diagnostic x-ray examinations do not endanger the health of patients, despite a few shrill claims to the contrary. We could cite millions of instances where x-ray examinations provide life-saving information to patients."

The College supported in testimony before the Senate Commerce Committee a radiation standards bill, proposed after reports of radiation leaks from color television sets.

"The public has the right to expect protection against harmful amounts of inadvertent exposure to radiation from the operation of electronic devices," Dr. Chamberlain said.

He added that much more is known today about the effects of radiation than about many other environmental contaminants. Although more needs to be learned about the effects of low levels of radiation, he said, "we do know with assurance that their potential for harm is very small."

"The real tragedy occurs when even a single person may be misled by a distortion of radiation hazards to refuse a needed diagnostic x-ray examination," he said.

* * *

The Food and Drug Administration (FDA) has proposed new regulations for the classification of drugs found both safe and effective for their labeled uses in a survey of more than 3,600 prescription drugs.

The new procedures would open the way to increased competition within the drug industry by allowing firms to market drugs reclassified as "not new" or "no longer new" without submitting and awaiting approval of new drug applications (NDA) by the FDA.

A manufacturer that gets an NDA approval for a product has the right to market it exclusively. It is in effect an individual company license. Under the terms of the Food, Drug and Cosmetic Act, any medicine can remain in this "new drug" category regardless of how long it has been on the market.

The new proposal would set up a system for reclassifying the pre-1962 "new drugs" recognized as effective in the drug efficiency study being conducted for FDA by the National Academy of Sciences-National Research Council. The review, authorized by Congress in 1962, covers 3,690 drugs — every drug marketed in this country between 1938 and 1962. The drugs under review had been approved as "new drugs" solely on the basis of safety.

FDA announced that two drugs — metyrapone and metyrapone ditartrate — would be the first "new drugs" reclassified under the proposal. Both were found effective for their recommended uses of testing the functioning of the pituitary glands. They are manufactured by CIBA Pharmaceutical Co.

In its second report to carry out recommendations of the study of every drug manufactured in the United States between 1938 and 1962, the FDA notified the manufacturer of a drug used in the treatment of severely painful menstruation to provide evidence within 60 days that the

product is effective for conditions listed in its labeling. The drug lutrexin, manufactured by Hynson, Westcott & Dunning, Inc., of Baltimore, is available on prescription only.

The FDA also has issued a new warning about dangers of the antibiotic drug chloramphenicol.

* * *

Health, Education and Welfare Secretary Wilbur Cohen estimated that the medicaid program may cost the federal government between $2.5 and $3 billion in the fiscal year 1971.

The estimate for the next fiscal year (1968) is $2.1 billion. The original estimate for the current year was $1.7 billion but that proved substantially low and the administration has asked for $500 million more.

Congress has put some restrictions on the medicaid program, effective this July 1, and they may result in holding down the 1971 costs below Cohen's estimate.

The Social Security Administration reported that the medicare Part B program, physicians' services, operated at a small deficit in fiscal 1967 which will be covered by the increases from $3 to $4 in monthly premiums.

The percentage of people 65 and over enrolled in the doctor bill insurance part of medicare went up from 92 to 95 percent during the 6-month open enrollment period that ended April 1. About 700,000 older people who had missed out on their first chance to enroll signed up between October 1, 1967, and April 1 of this year. Now, 18.6 million of the 19.6 million persons 65 and over in the nation are now enrolled for medicare voluntary medical insurance.

Social Security Commissioner Robert M. Ball said that the overall social security fund is in good fiscal condition. Medicare received $3.1 billion in fiscal 1967 and disbursed $2.6 billion, Ball said. He said estimates for the next 25 years showed that the program "has a favorable actuarial balance—namely, that total income over the 25 years ahead is expected to exceed total outgo."

Cohen told a House appropriations subcommittee that HEW was very much concerned and was making an intensive investigation of reported abuses by some physicians in federal medical programs.

He said a number of allegations had been made but that he would not want to make an overall statement until the investigation was completed.

"A typical kind of allegation concerns a doctor who goes into a nursing home — I will be just hypothetical about this — and he is there for an hour and then sends in a bill for an injection of something for every one of 50 people in the institution," Cohen said.

"Then we have had cases of bills being submitted in which the evidence suggests that the volume of services that he is requesting to be paid for is beyond the ability of a particular person to handle. Well, he comes back to that allegation and says, 'I have a nurse and I have an assistant' and so on. So we have to look into each one of them on their merits. We are doing that now.

"The popular criticism usually has to do with the individual fee. I really don't think that is the major issue. The real issue is not so much the fee or the price per unit, but the number of units that the person is saying he delivered."

Cohen said he did not think such practices are widespread but that:

"We have enough to be very much concerned about it."

* * *

A preliminary injunction was issued to halt the sale of a diathermy device distributed by the Diapulse Corporation of America.

The U. S. District Court for the Eastern District of New York, enjoined sales of the Diapulse device, advertised for treatment of 49 diseases and conditions, including tuberculosis, typhoid fever, staph infections, and gangrene.

The diapulse device was seized by FDA in 1965, and found to be misbranded on March 17, 1967, by a Federal court in Hartford, Conn., but the sale of the machine continued pending further appeals.

* * *

A group of physicians specializing in child health has endorsed a bill to require special safety containers for drugs, soaps and other household products involved in the poisoning of 500,000 children each year.

The Accidental Poisoning Committee of the American Academy of Pediatrics endorsed the measure sponsored by Chairman Warren G. Magnuson, D-Wash., of the Senate Commerce Committee. The Academy, in a letter to Magnuson, said the bill was the only "practical way to eliminate hazards from drugs and household products."

The government announced a ban on interstate shipment of household products containing carbon tetrachloride — a substance used in some cleaning fluids.

The Food and Drug Administration (FDA) said use of the chemical in a home constitutes a hazard to public health and added there are many safer substitutes available. According to the FDA, carbon tetrachloride can be fatal if the fumes are inhaled. The chemical can also cause damage to the liver, kidneys, brain and nervous system, the agency said.

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This program is acceptable for credit by the American Academy of General Practice and the College of General Practice of Canada.

The registration fee for this program is $20.

The number of physicians who can be accommodated is necessarily limited. For this reason identical programs will be offered two successive weeks. The program will be presented first on October 28, 29 and 30 and repeated on November 11, 12 and 13. Those wishing to attend should communicate with M. G. Brataas, Mayo Clinic, Rochester, Minnesota 55901, indicating which session they would prefer to attend.

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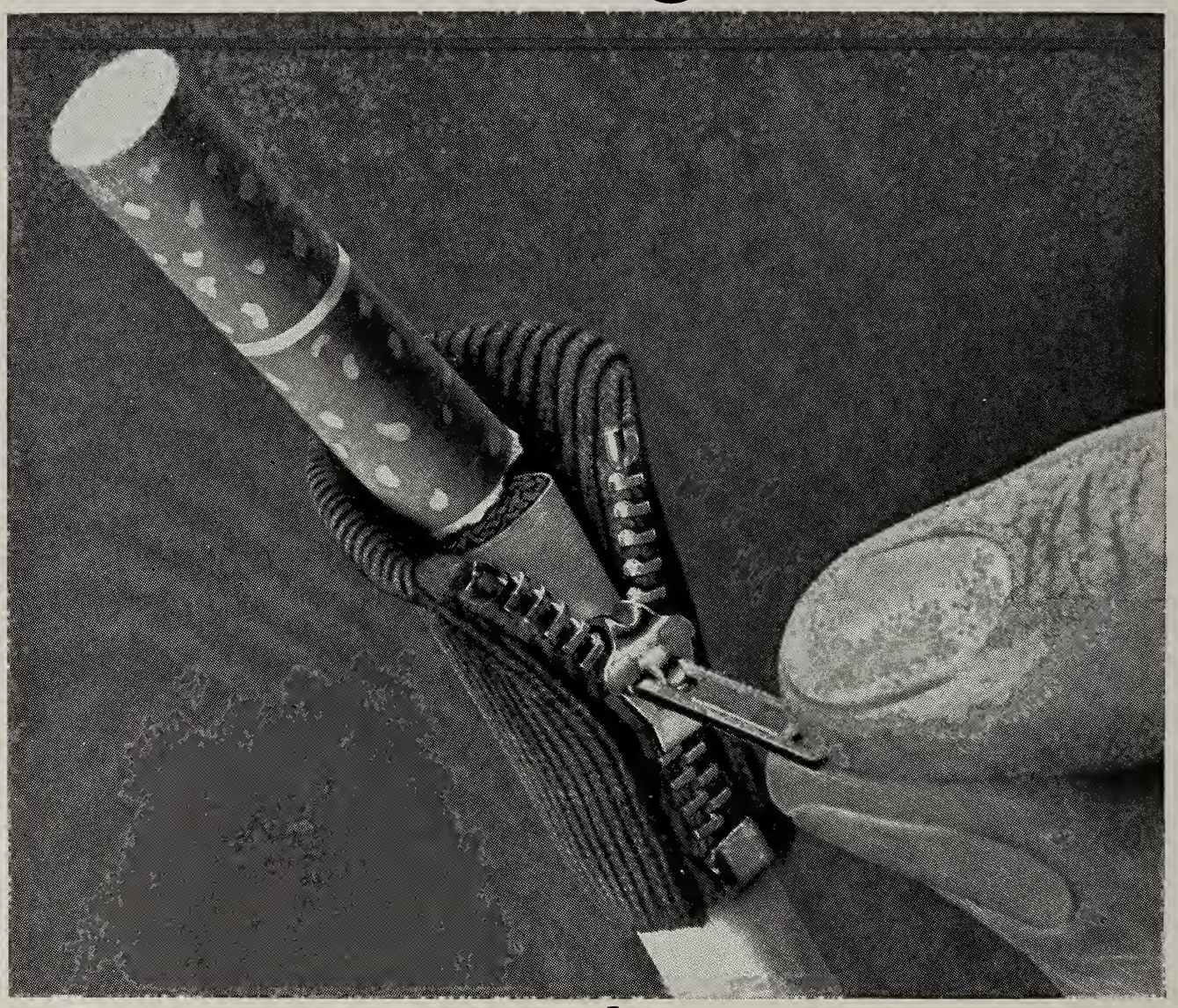

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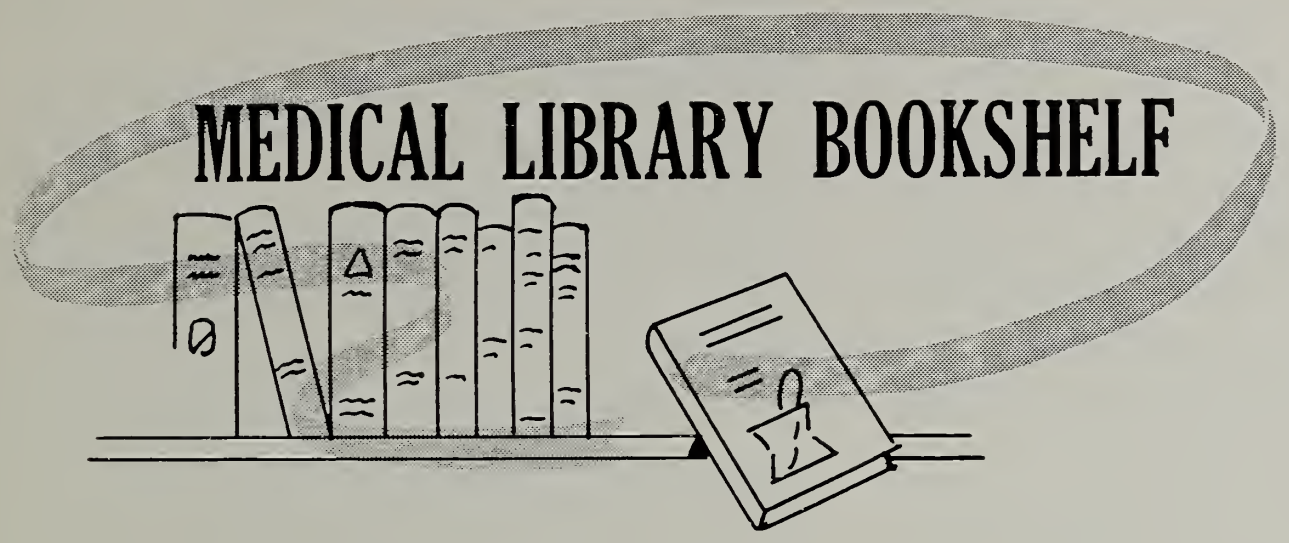

DIABETES MELLITUS: Diagnosis and Treatment

Volume II

George J. Hamwi, M.D.,
T. S. Danowski, M.D., Editors

Prepared under the auspices of the Committee on Professional Education of the American Diabetes Association, Inc.

This is a well written, comprehensive, concise treatment of the entire subject of diabetes. It is published under the supervision of Doctor T. S. Danowski with some 40 contributing authors. The subject of diabetes is treated as to its pathogenesis, diagnosis and treatment.

Each of the contributing authors has been asked to prepare a section with which he is obviously very well versed. In so doing, the reader is exposed to a concentrated review of each phase of the problem of diabetes. The text is easy to read and understand. Under therapy, particularly, the reader is treated to an analysis in depth of the problems the practicing physician faces in the treatment of the acute diabetic, long term management and the complications of diabetes.

This book will serve as a reference both for the specialist and the general practitioner. It is of particular interest to the busy practitioner who wishes an up-to-date summary on the subject of diabetes as a whole without having to spend time sifting through the voluminous literature on this subject.

Reviewed by Michael R. Ferrell, M.D.

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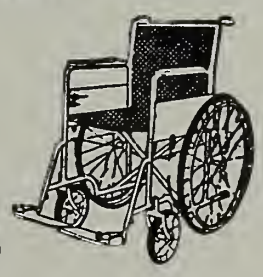

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NURSING SCHOOL DOORS SHOULD OPEN WIDER TO MEN

Nursing is a profession that should attract men as well as women, according to an editorial in **Hospitals,** published by the American Hospital Association. "In 1967, 99 percent of the 640,000 registered nurses in the United States were women. The male nurse continues to be an anomaly, even though his contribution to the nursing profession has been widely recognized and accepted over the past decade." The editorial points out that the proposed Health Manpower Act of 1968 "appears to hold great promise for the ability of nursing schools to recruit and train both male and female nurses."

WHAT U. S. SPENT FOR HEALTH IN 1966

The $45.4 billion spent by the United States for health and medical care during 1966 accounted for 6.1 percent of the total output of goods and services, according to an article in the April 1968 issue of the **Social Security Bulletin.** Ninety-two percent of these health expenditures went for health services and supplies; the remaining 8 percent was used for research and medical facilities construction. This 1966 total represents an increase of $4.5 billion, or 11 percent, over the amount spent in the previous year.

MOST MDs CARE DIRECTLY FOR PATIENTS

The majority (93.2 percent) of the 294,072 physicians who are professionally active in the United States and its possessions are classified in the "patient care" category, according to the American Medical Association's survey on "Distribution of Physicians, Hospitals, and Hospital Beds in the U. S., 1967." The remaining 6.8 percent of the total physician population is distributed in the areas of "administration," "medical school faculty," and "research."

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LETTERS TO THE EDITOR

July 7, 1968

Mr. Richard C. Erickson
South Dakota State Medical Association
711 North Lake Avenue
Sioux Falls, South Dakota

Dear Sir:

I was fortunate to be chosen as a finalist to the International Science Fair by the USD branch. The trip was most rewarding and inspirational and as sincerely as I may I wish to thank you for the part you and your organization played in it. I will long remember it and you.

Thank you.

Sincerely,
Randall Mollet
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THE SINGLE APE

E. H. Heinrichs, M.D.

A very popular recent book[1] relates all troubles of the human race back to the moment when our hominid ancestors left the jungle, walked out in the prairie and lost their hair. This surprised me since I had read only a very popular older publication which traces the problem back to the ingestion of an apple and subsequent eviction from paradise. Being a male, I liked this explanation since it places clearly all blame upon the opposite sex. Nevertheless, the new version gives food for thought.

The aforementioned publication[1] also indicates that our present form of marriage bonds is related to marriage-like relations between animals. Its author assumes that out of necessity of life the hunting "naked ape" was forced to form monogamous unions. This appears questionable since many other predacious animals (lions, hyenas, wolves, etc.) have adopted a typical group living form (herds) while a number of vegetarian primates (gibbons, marmosets, etc.) exhibit lasting monogamous ties. Therefore one cannot assume that our present day connubial tendencies are based on a decision made by some members of the species homo sapiens many thousands of years ago. Furthermore, a good number of human societies are polygamous. And in particular the fact of discrimination against single members in our society cannot be based upon this fiction.

Every year on April 15th, approximately 25 million persons over 25 years of age in the United States pay higher income tax rates as compared to their married brothers and sisters. In the past, higher taxes were justified in the belief that this additional burden would entice young people to escape into wedlock, thus providing the country with children, needed to populate the vast and empty space of our subcontinent.

And indeed, it fulfilled its purpose. However, a country and a world which is now concerned with a population explosion should not resort any more to such archaic, obvious and dubious devices. And until recently, the married man had also a preferential treatment in the draft for similar reasons.

Our Federal Government has spent in the last fiscal year (1967) $26.2 million for what is called euphemistically "family-planning" in addition to $38.3 million from private sources for the same purpose within the United States and Canada. In the remainder of the world, a total of $27.8 million was spent for this aim.[2]

The only conclusion which can be drawn from such actions approaches Kafkaism, namely: in order to prevent overpopulation, one taxes those persons higher who do not have children or much less so. It would indeed be more logical to tax marriage and parenthood as a possible means of controlling population explosions. And in fact, such a proposal has already been made.[3]

Governmental schizophrenia of such sort is not entirely new. The Agricultural Department for example advises farmers how to obtain higher yields, while another office of the same branch of government, usually across the street, advises the same farmer on how to limit his crop: Extension Agencies — ASC Soilbank Program.

Our own Blue Shield - Blue Cross is not entirely free of discriminatory practices:

If an unmarried person has a child — and not all are O.O.W.'s which would supply one at least with moral argument — he or she pays family rates, despite the fact that the mate in marriage is missing. (In fact, it is cheaper to buy coverage for two single persons than to obtain "family-coverage").

Social Security taxation, to name only another example, is unaffected by being married or single, even though it should be lower for single persons, since no partner will survive the insured. The human single person has statistically a shorter lifespan making him a better insurance risk. Only single fleas surpass in length of life their cohabitating brothers. And many more examples could be cited.

The legislators went to great pains to prevent discrimination against nationality, race, creed, color, sex and most recently even age, but nobody has ever thought of discrimination because of marital status, as it is practiced wholesale even by the Federal Government.

The reasons for our sociological position towards bachelors in our society must have their roots in the history of our country, since our attitude is so different from those in other countries. It appears at present unthinkable that a bachelor or a divorced single man can become President of the United States, but our neighbor to the North has just elected a bachelor for a Prime Minister who immediately in our newspapers was labeled as a "playboy." (The Governor of South Dakota is the exception to the rule, but on the other side, many things are possible in our State which cannot happen elsewhere.)

Indeed, the male in former times on this subcontinent was faced with a rigorous life and loneliness in the wilderness and wide open spaces. Without the companionship and working association of a wife these circumstances were unbearable. Unfortunately for this country the French settlements were not as successful as the Puritan English immigration. (The Spanish basically came not to North America for settlement.) When later North and Middle European immigration arrived, the social and moral standards of our society were set. The single person was regarded a social vacuum, morally dubious and a problem in general.

The New England forefathers solved this problem in a typical way: by passing a law against it, the issue did not exist any more, — just as we "legislate sin away"[4] in our present time. In New Haven for instance unattached men were kept under constant surveillance by their wedded neighbors and the rules were quite specific. In the peculiar language of the law they had "to walk diligently in constant lawful employment, attending both family duties and public worship of God, keeping good order day and night and otherwise" (sic!). In Massachusetts besides paying a rather high additional tax, they were required to shoot a yearly quota of blackbirds. This protected the crop and the females of the community by reducing the bachelors free time.

While the bachelor is looked upon in our society as being a potential failure, immature and unbalanced — large companies would not hire him for any responsible position — he is socially a problem. He cannot be invited to social functions because he is "extra," and if he is needed one feels obligated to invite a similarly unattached person of the opposite sex. One assumes that he or she cannot enjoy himself or herself alone or regards them a danger for the attached members of the party. When the male bachelor has reached forty and he must be invited, he is considered mature enough for double divorcees or those girls being treated by a psychoanalyst.

This catalogue of discriminations against single persons of both sexes could endlessly be continued but I am a little in a hurry, as I have to go on a date with a gorgeous girl I might marry — perhaps.

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R. I. BLUE SHIELD PARTICIPATES IN HOME CARE PROGRAM

Rhode Island Blue Shield is covering up to six doctor visits per month for its subscribers on a new Home Care program for patients with pulmonary diseases. The program, established at Rhode Island Hospital with Blue Shield and Blue Cross participating on a pilot basis, is designed to provide quality care in the home for patients in the greater Providence area at less cost than inpatient hospital care. Blue Shield pays $7 for a home visit and $5 for an office visit. It is anticipated that shorter hospital stays will result, helping to relieve a shortage of hospital beds.

PHYSICIAN – J. DOE, OR J. DOE, PHYSICIAN?

This thesis is intended as a corollary, not a rebuttal to the excellent editorial which appeared in the May, 1968 issue of the Journal, in the hope that the subject of physician supply will receive due deliberation and study by communities as well as the physicians of this state.

Physicians are in short supply now and will probably continue to be for some time to come. This fact becomes painfully apparent to the individual who is a member of the medical education committee in a hospital where interns receive their training. There is a constant inflow of letters from well meaning physicians, lay persons, chambers of commerce, and others, requesting the services of a physician for the community. The pleas in many instances are heartrending but the sender of the letter is obviously oblivious to the logistics of getting these young physicians placed in individual communities. The majority of the interns at the present time are obligated for military service, some are previously committed to further medical education, and many have already chosen their future home prior to entering internship. This does not leave much of a manpower pool from which to place physicians in many very desirable locations. Too often the well-intentioned advertiser puts primary emphasis upon the fact that a **physician** is wanted, but fails to emphasize what should be the far more important factor, that they desire **an individual person who is a physician** to be a member of their community. Is the physician a commodity to be bought and sold, traded, and merchandised? ? ?

What are the inducements for a physician to come to a small community in South Dakota? Some like the practice of medicine in a rural community. Some like hunting. Some like the fresh air and the lack of traffic. Some like the absence of big industry with all of the complications to life of those who reside in its vicinity. Some like South Dakota.

During the past few years it has been notable in the Sioux Falls area that among the physicians who reside in the surrounding small communities, the turnover is rapid. Now many of the small communities within a 40 mile radius are sans physician. One of the major reasons for this exodus was explained most succinctly by a young physician who left a small community not long ago for a residency. He stated, "Whenever there is a cut finger to be bandaged, they come to me. When the child has colic in the middle of the night, they call me. If there is anything interesting and potentially remunerative, they trot to the special doctors in the big city." A trend is appearing in the Sioux Falls area for young physicians practicing in smaller communities to become members of a clinic in the city. They spend part of their time in the clinic or at the hospital assisting at surgery, etc. This is a solution to the problem in one portion of the state but would not be applicable in many areas.

The director of the Chamber of Commerce in one of the larger communities in eastern South Dakota recently put his foot into his mouth and very nearly bit it off by promoting a direct airline route to eastern Minnesota, with the unstudied opinion that it would help expedite transportation of patients to "a medical center." After this person was made acutely aware of the fact that the South Dakota Medical Association and the individual physicians

are attempting to promote the highest quality medical care within the state, and the value of the medical services both in terms of patient care and in dollar income to the state, there was a sudden awakening and much less interest in the airline rerouting.

People in this state think nothing of driving between 20 and 60 miles to the county seat to pay taxes, to get their car and other licenses, and to conduct official business. Would it be much different to go a similar distance to receive first quality medical care? Much of the desire in small communities to have a physician immediately available is more a convenience mechanism than a real need for the physician's services. Should not the medical profession start people thinking in terms of the county, city, or area medical center, and regional medical planning, where health care can be centralized and more efficient? The plan now operational in the state of Oklahoma is basically this and much of it could be adapted to the state of South Dakota.

It is very unlikely that each hamlet in this state will ever have its own "family doctor." Even if each did, it would not be possible practically or financially for him to administer all the medical services which are conceivably available. Therefore some form of consolidation of health care services must be implemented in this state soon if the best patient care is to be administered with the physician supply which is available.

The "solo" practitioner is on the way out nationally and in this state. Group or clinic practice, centralizing the physicians in nuclei, will promote better medical care, greater satisfaction to the patient, and will help conserve and better utilize the supply of physicians. Under such a program the individual physicians can become members of the community as well as practice the highest quality of medicine.

J. B. Gregg, M.D.

MDs CAN HELP HOLD DOWN COSTS

In an open letter to physicians in **The AMA News,** AMA president Milford O. Rouse, M.D., urged his colleagues to seek "the necessary services and supplies for our patients with a reasonable expenditure of their health care dollar." Dr. Rouse also suggested that doctors "appraise each medical decision in the light of its economic consequences" to patients. "Our first concern, now as always," Dr. Rouse wrote, "is for the welfare of our patients."

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Warnings: Consider possible sensitivity where there is history of allergy or asthma. If added potassium is indicated, dietary supplementation is recommended. Reserve enteric-coated potassium tablets for cautious use only when necessary, as they may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation often requiring surgery; discontinue them immediately if abdominal pain, distention, nausea, vomiting, or g.i. bleeding occurs. Neither Enduron nor Enduronyl contains added potassium.

Precautions: Use thiazides cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery, thiazides may reduce response to vasopressors, and increase response to tubocurarine. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia) in all patients. In hypokalemia (especially in digitalized patients) give supplemental potassium. In hypochloremic alkalosis, give supplemental chloride.

Use rauwolfias with caution in patients with history of peptic ulcer. Rauwolfias with anesthetics may produce hypotension and bradycardia. Discontinue Enduronyl two weeks before elective surgery. Consider vagal blocking agents during emergency surgery. In epilepsy, adjust anticonvulsant dosage. In electroshock, shorten stimulus strength and duration. In occasional patients with depressive tendencies, rauwolfias may precipitate severe mental depression that usually disappears when drug is stopped.

Adverse Reactions: Thiazide reaction include blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, serum uric acid or blood sugar; anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice, symtomatic gout, and pancreatitis. Cutaneous vasculitis in the elderly has been reported with other thiazides. Adverse effects with deserpidine are qualitatively similar to those with reserpine, but their incidence is lower. These include nasal stuffiness, abdominal cramps or diarrhea, nausea, headache, weight gain, reduced libido and potency, peptic ulcer aggravation, epistaxis, skin eruption, asthma in susceptible patients, electrolyte imbalance, excessive salivation, and a reversible Parkinson's syndrome. Excessive drowsiness, fatigue, weakness, and nightmares may signal mental depression. Thrombocytopenia, purpura, and a symptom manifested by dull sensorium, deafness, uveitis, glaucoma, and optic atrophy are rare allergic reactions to other rauwolfias. Hypotension from antihypertensive agents may precipitate angina attacks in susceptible individuals. Usually adverse reactions disappear when drug is withdrawn.

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Warnings—Patients: 1. No other drugs (particularly "cold preparations" and antihistamines), cheese or alcohol without physician's consent. 2. Promptly report orthostatic symptoms, severe headache, other unusual symptoms. 3. Angina pectoris or coronary artery disease patients must not increase physical activity with improved anginal symptoms or well-being.

Physicians: 1. Use antihistamines, hypnotics, sedatives, tranquilizers and narcotics (meperidine contraindicated) cautiously in reduced doses. 2. Stop Eutron two or more weeks before elective surgery; in emergency surgery reduce premedication (narcotics, sedatives, analgesics, etc.) to 1/4 to 1/5; carefully adjust anesthetic dosage to patient response. 3. Use cautiously in advanced renal failure. 4. Pargyline may induce hypoglycemia. 5. Consider possible sensitivity reactions when a history of allergy or asthma is present. 6. If potassium is indicated, dietary supplement is recommended; enteric-coated potassium tablets may induce serious or fatal small bowel lesions (stenosis with or without ulceration), cause obstruction, hemorrhage, and perforation frequently requiring surgery; discontinue medication immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs; Eutron does not contain added potassium. 7. Possible systemic lupus erythematosus has been reported for thiazides.

Precautions—Pargyline: Use cautiously at reduced dosage: caffeine, alcohol, antihistamines, barbiturates, chloral hydrate, other hypnotics, sedatives, tranquilizers, narcotics. Periodically do urinalyses, blood counts, liver function tests, etc. Use with caution in liver disease. Watch for orthostatic hypotension, especially in impaired circulation (e.g., angina pectoris, coronary artery disease, cerebral arteriosclerosis); also, augmented hypotension in concomitant febrile illnesses. Reduce or discontinue if hypotension is severe. In impaired renal function watch for cumulative drug effects, elevated BUN and other evidence of progressive renal failure; withdraw drug if these persist. In surgery increased central depressant response (hypotension and increased sedative effect) can be controlled by (1) discontinuing at least two weeks prior; (2) in emergency surgery lowering dose of premedication; (3) when necessary, administering a vasopressor. Do not use in hyperactive and hyperexcitable patients. Pargyline may unmask severe psychotic symptoms where emotional problems pre-exist. Use cautiously in Parkinsonism, especially with antiparkinsonian agents. In prolonged therapy, examine for change in color perception, visual fields, fundi and visual acuity. Also, prolonged therapy has made certain patients refractory to nerve blocking effects of local anesthetics.

Methyclothiazide: Use cautiously in severe renal dysfunction, impaired hepatic function or progressive liver disease; also in pregnancy (bone marrow depression, thrombocytopenia, and altered carbohydrate metabolism have been reported in certain newborn). In surgery thiazide may reduce vasopressor response and increase tubocurarine response. Antihypertensive response may be enhanced following sympathectomy. Watch for electrolyte imbalance (e.g., hyponatremia). Give supplemental chloride if hypochloremic alkalosis occurs and supplemental potassium if hypokalemia occurs (especially in digitalized patients). Thiazides may decrease serum P.B.I. without signs of thyroid disturbance.

Adverse Reactions — Pargyline: Orthostatic hypotension and associated symptoms, mild constipation, fluid retention, edema, dry mouth, sweating, increased appetite, arthralgia, nausea, vomiting, headache, insomnia, difficult in micturition, nightmares, impotence, delayed ejaculation, rash, purpura, weight gain, hyperexcitability, increased neuromuscular activity and other extrapyramidal symptoms. Drug fever is extremely rare. Reduction in blood sugar and hypoglycemic effects are possible. Congestive heart failure has been reported in a few patients with reduced cardiac reserve.

Methyclothiazide: Blood dyscrasias (thrombocytopenia with purpura, agranulocytosis, aplastic anemia); elevation of BUN, blood sugar or serum uric acid (gout may be induced); anorexia, nausea, vomiting, diarrhea, headache, dizziness, paresthesia, weakness, skin rash, photosensitivity, jaundice and pancreatitis. Cutaneous vasculitis in elderly patients has been reported with other thiazides.

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My Political Creed

I am a free citizen in a free nation.

Whoever diminishes my freedom as an individual diminishes the sum total of freedom in my country.

I am also a physician, free thus far to treat my patients to the best of my ability.

Abridge that freedom and the health of my patients is adversely affected.

These things being true, I cannot--I will not--stand idly by when these hard-won freedoms are under attack.

For I believe that the values upon which this country was founded are immutable and have not been eroded by the passage of years.

I believe that I, as a free citizen in a free land, am obligated to defend my beliefs in the ways permitted to me, and required of me, by our form of government.

Therefore, let no man seek to bar me from the political process; for it would be akin to denying my right to participate in the process that determines free government.

PRESIDENT'S PAGE

In this day and age it is hard to find a clear definition of anything. Morality, we are told, is a matter of expediency, a product of time and place. Truth is measured in shades of gray, never clearly or finally stated. Values too are fleeting and relative, impossible to define once and for all.

For this reason it is refreshing to find a creed such as the one printed on the opposite page. For here we have, in bold black and white, a positive statement which clearly and concisely expresses what each of us has felt and believed about our duties as physicians and citizens.

This creed unequivocally defines our all-important relationship with our patients within the context of a free society. It emphatically declares our intention to maintain that relationship within that context.

It is a creed which deserves your careful attention. It is printed on paper which makes it entirely suitable for framing. In fact, it could most appropriately be hung beside your copy of the Oath of Hippocrates, for these two documents together state in explicit terms the traditional and enduring convictions of dedicated physicians who must continually face the duties, privileges and responsibilities of the practice of medicine today.

Of course, no creed has meaning unless it truly represents the actions of those who profess to believe in it. If we as physicians do not actively participate in the political processes of our state and nation, we make a mockery of the words printed here. This year is another important election year. Get out and vote. Work for your favorite candidates. Support your party. Join SoDaPac and AmPac. Show that you mean to do your part to preserve the freedom of this nation, that you do indeed live by this creed.

John T. Elston, M.D.
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MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

A proverb is something that many have thought, but few have put into words.

The **G. Robert Bell** family of De Smet recently returned from a three week trip to Europe.

* * *

The Lawrence County Board of Health announced the reappointment of **Arthur Semones, M.D.,** Lead, as president and **T. E. Mead, M.D.,** Spearfish, vice president.

* * *

John Hermanson, M.D. has reopened his practice in Valley Springs, S. D.

* * *

L. E. Savage, M.D., Yankton, spoke at Homecoming Day for the Sacred Heart Hospital Nurses Alumnae Association. **Clark Johnson, M.D.,** Yankton, served as master of ceremonies.

* * *

As a member of the Public Education Committee and Board of Directors of the South Dakota Division of the American Cancer Society **B. T. Otey, M.D.,** Flandreau, attended the 1968 ACS National Public Education Conference in St. Louis.

Lonnie Waltner, M.D., joined the Freeman Clinic with branches in Freeman and Bridgewater.

* * *

The Board of Directors of the Northwestern National Bank named **Myron C. Tank, M.D.** to the Advisory Board of the Brookings office.

* * *

N. R. Whitney, M.D., Rapid City, served as attending physician for the 12th Kiwanis diabetic camp in the Black Hills.

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The South Dakota State Board of Medical and Osteopathic Examiners elected **John W. Donahoe, M.D.,** Sioux Falls, president, and **G. Robert Bartron, M.D.,** Watertown, secretary.

* * *

James P. Steele, M.D., Yankton, and **Robert H. Hayes, M.D.,** Vermillion, participated in panel discussions on health care costs in Kansas City.

* * *

The American Board of Surgery awarded **John O'Sullivan, M.D.,** Redfield, his certification by that board.

* * *

O. M. Jerde, M.D. has joined the group at the Parkside Professional building in Rapid City.

* * *

Homestake Hospital named **Lydia Ann Eastburn, M.D.** to its medical staff.

* * *

William R. Taylor, M.D., Aberdeen, spoke on "Chemotherapy of Neoplasia" at the meeting of the Whetstone Valley District Medical Society held in Rosholt. .

* * *

K. A. Muckala, M.D. has joined the practice of **E. J. Moore, M.D.** in Vermillion.

"Now that your acne is clearing up nicely,
it might be a good idea if you started losing some weight."

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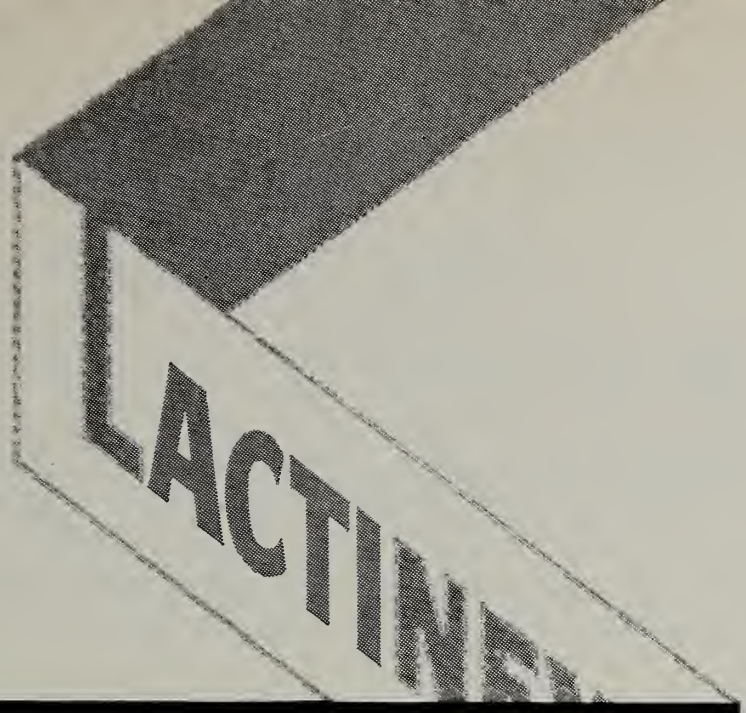

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(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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AND THE SIOUX VALLEY MEDICAL ASSOCIATION**

Volume XXI **October, 1968** **Number 10**

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THE TWENTY-FOUR HOUR MEDICAL MANAGEMENT OF PULMONARY EMBOLISM

Dennis L. Johnson, M.D., St. Paul, Minn.

Pulmonary embolism in this discussion will be limited to thromboembolism. This entity accounts for about 14% of consecutive autopsies. Diagnostic errors range from 50 to 90%. The source of the embolus is not clinically evident in about 40% of cases, although in 95% of the cases it is the lower extremity. Of those cases diagnosed as the first single "herald" embolus, there is a 43% chance of a new clinically recognizable thrombosis, a 30% chance of a recurrent embolus, and an 18% chance of a fatal embolus.[2] Fatality becomes increasingly probable with each recurrence. About 60% of massive emboli are fatal in 1 hour.

High risk groups include those persons over 40 years of age; confined to bed over 3 days; with cardiovascular diseases (especially congestive failure and myocardial infarction); in postoperative state (especially genitourinary or abdominal); in postpartum state; subjected to severe trauma (especially immobilized fractures); and those with disseminated neoplastic diseases. Primary factors which contribute to thromboembolism are venous stasis and increased coagulability of the blood. Activities such as straining at stool, rising from a chair, sudden moves or stress have been implicated as initiating events.

The pulmonary vascular tree is an effective filter for particles such as blood clots, fat globules, air, amniotic debris, neoplastic cells and bacteria. Some particles less than 75 microns in diameter may escape filtration through normally occurring arteriovenous fistulae but this is not considered to be clinically significant. In many cases pulmonary infarction does not occur due to collateral bronchial circulation. With diminished ventilation, pulmonary infection or congestion, an infarction becomes more likely. Embolic obstruction may lead to hyperemia, edema and infarction in about 12 to 36 hours. Necrosis of alveolar walls and hemorrhage into alveoli and associated bronchi gives rise to bloody sputum. Coughing is probably a response to inflammation of bronchial mucosa in an area of infarction. Fever and leukocytosis occur in response to necrosis but may be secondary to an infectious component. Tachycardia may be in response to decreased systemic blood pressure, anoxia, apprehension or fever. Dyspnea is explained by anoxia and by Hering-Bauer type reflex from stimulation of receptors in the distended pulmonary artery. Infarction may involve the visceral pleura giving rise to pleuritic pain or substernal discomfort. Substernal pain may also arise because of distention of the pulmonary arteries. Pulmonary arterial constriction in response to emboli may contribute to sudden death in massive embolism.[9] Decreased pulmonary return may lead to right ventricular failure and circulatory collapse. Pulmonary function studies reveal decreased vital capacity, increased minute ventilation, decreased timed vital capacity and decreased diffusing capacity. Arterial blood gases may have decreased carbon dioxide and oxygen tensions.

Only about 10 to 15% of patients with pulmonary emboli present with a "classic picture." In massive embolism the diagnosis is based upon clinical signs and electrocardiographic evidence of right heart failure; x-ray evidence of pulmonary artery dilation; x-ray and radioisotope scan radiolucency in the affected lung field; and pulmonary angiographic evidence. Smaller emboli produce single or usually multiple defects. About 80% are in the lower lobes with the right being more frequent than the left. Diagnosis is based on clinical signs of pulmonary infarction; x-ray evidence of pulmonary infiltrate, pleural effusion or radiolucency; radioisotope scan with multiple radiolucency; peripheral filling defects on angiogram; transient electrocardiographic evidence of right heart failure and elevation of lacticdehydrogenase (LDH).[4]

Considering all cases of pulmonary emboli, the following distribution of signs and symptoms is noted. Any combination may be present in a given case. The majority have dyspnea, tachypnea, pleural pain, rales, tachycardia, accentuated P_2, elevated WBC (less than 15,000 without left shift in the absence of infection), elevated LDH, elevated sedimentation rate, and a normal SGOT. About one-half have fever (101°F. or less), or elevated bilirubin. About one-third have hemoptysis or phlebitis. About one-fifth have pleural friction rub, chest splinting or cyanosis. About 10 to 20% have electrocardiographic findings of deep S waves in lead I; tall P wave in lead II; right axis deviation; Q wave in lead III; depressed S-T segment and inverted T wave in leads III, aVF and V_1 through V_3; transient incomplete right bundle branch block; R waves in the right precordial leads; clockwise rotation; sudden atrial fibrillation; or premature ventricular or atrial contractions. These findings may clear in hours or persist much longer.[5, 6]

The use of radioisotope scanning as a screening procedure is best correlated with x-ray radiolucent ("avascular") areas, if bullae and cysts may be ruled out. Defects of less than a few centimeters are usually missed. The characteristic lesion is a crescent shaped defect particularly at the lateral borders of the lungs with most frequent incidence in the right lower lung field. Differential diagnoses are infarct, pneumonitis, atelectasis, abscess and tumor. Therefore, if a corresponding radiodense area is seen on x-ray, the scan is of no value. This is an easy method of following patients with serial evaluations. Selective pulmonary angiography should be done if surgical removal of the embolus is anticipated.[11]

Therapy is directed at prevention of propagation of thrombi, prevention of further emboli, alleviation of circulatory and ventilatory embarrassment and to relieve the patient's subjective symptoms.

Heparin is the drug of choice in acute pulmonary embolism, in the absence of specific contraindication. It has been used clinically since the late 1930's, in the treatment of pulmonary embolism. The action of heparin is to inhibit the action of thrombin and fibrinogen in the formation of fibrin, and to inhibit platelet agglutination. The properties of potentiation of the fibrinolytic system, anti-inflammatory, anti-allergic and lipid clearing action in vivo, have been attributed to heparin. Heparin is known to relieve "bronchospasm" in pulmonary embolism. The dosage is 5,000 U. to 15,000 U. as an initial dose with a second dose two to four hours later, then each four to six hours thereafter, for the first twenty-four hours. Clotting times should be taken about four hours after the preceding dose or one hour prior to the subsequent dose. Guide lines are between two to three times the control clotting time, maintaining the clotting time above two times the control value at all times. This requires judicious adjustment of the dosage in each case. An indwelling venous catheter is a convenient way to administer repeated doses of heparin. Subcutaneous and intramuscular administration of heparin is fraught with risk of hematoma formation.

Peak action of heparin occurs in minutes with normal serum levels at about four hours in a single dose. Thirty percent of an injected dose may be found in the liver in fifteen minutes; at thirty minutes 2% may be found in the urine; and at twenty-four hours 40% may be recovered in the urine.

Contraindications to heparin therapy are general hemorrhagic diathesis, severe hypertension, cerebral hemorrhage, active ulceration, overt bleeding (i.e.: gastrointestinal, genitourinary, and marked respiratory), and extensive recent surgery (i.e.: central nervous system, eye, lung, prostate, and biliary tract with hepatic failure).

In controlled studies, heparin alone has reduced the mortality in pulmonary embolism from 26 to 32% down to 0 to 4%. Prophylactic heparinization of high risk individuals may well be warranted.[1, 7, 10] Clot propagation does not continue with adequate heparinization whereas it may occur with oral anticoagulants.

After several days when stabilization has been achieved with heparin therapy, oral anticoagulants may be started for easier long term management. In this case prothrombin times must be monitored and maintained at two to three times the control value.

In the absence of shock, sedation with 8 to 15 mgm. of morphine sulfate or 50 to 100 mgm. of meperidine (Demerol^{R}) will alleviate anxiety.[4]

Oxygen in 100% concentration delivered by face mask or cannula at 4 to 6 L/min. will help overcome hypoxia. The oxygen may have some vasodilating action also. Oxygen helps correct the decreased oxygenation of the myocardium due to low coronary blood flow and decreased oxygen saturation. Increased pressure load on the right ventricle requires more work and oxygen than would an increased flow requirement. Hyperbaric oxygen at three atmospheres has increased survival rates in experimentally produced pulmonary embolism, but needs further documentation in man.[3]

Digitalis may be given for acute right heart failure but may not be effective, although, some work indicates that digitalis produces a measured functional myocardial improvement to help the right heart keep pumping against increased resistance. Digoxin in the dose of 1.0 mgm. initially and 0.5 mgm. orally at six and twelve hours thereafter, will provide rapid digitalization. A total of 2.0 to 3.0 mgm. will be required for complete digitalization.

Isoproterenol or epinephrine at 10 micrograms per kilogram per minute in intravenous fluids can also increase the force of myocardial contraction.

Hypotension may be transient or may persist in pulmonary embolism. Right sided central venous and/or right ventricular catheterization should be done in hypotensive patients. An intraventricular electrocardiographic pattern may be taken with a salt bridge, or fluoroscopy may be done to ensure one is measuring the right intraventricular pressure. A spinal manometer may be used to determine the mean right ventricular pressure. If the mean right intraventricular pressure is above 30 cm. of water, surgical embolectomy is indicated because statistically, death may be expected in these cases unless surgical intervention is successful. Fluids and pressor drugs may be used in an attempt to raise the blood pressure, at least temporarily.[3]

In the absence of right heart failure, the emboli may clear spontaneously over a period of days to months. Surgical consultation for embolectomy must be considered in patients with massive emboli determined by x-ray, scan, arteriography and a mean right intraventricular pressure above 30 cm. water.

Surgical consultation for vena cava plication must be considered in the patient in whom anticoagulation is contraindicated; a pulmonary embolus occurs during adequate anticoagulation; there is a need for acute discontinuance of anticoagulants (i.e.: central nervous system hemorrhage, and frank hemorrhage); septic pelvic thrombophlebitis; and those in whom chronic multiple pulmonary emboli are causing pulmonary hypertension.[2, 10]

Antibiotics may be used in diagnosed pulmonary infarction with infection or prophylactically for surgical coverage.

Fibrinolytic enzymes such as urokinase have been encouraging in experimental work but much further study is needed before the effectiveness and complications become well defined.[8, 10]

Supportive care such as Fowler's position, elastic wrapping or stockings, elevation of the legs and frequent assessment of condition must not be overlooked.

SUMMARY

Pulmonary embolism constitutes a significant medical emergency. Rapid diagnosis and treatment may considerably reduce the mortality of this entity. Heparin is the drug of choice in the absence of contraindication. Supportive measures of oxygen, sedation, digitalization, fluids and pressor drugs may be of immediate value. Early evaluation for surgery may contribute to rapid definitive treatment.

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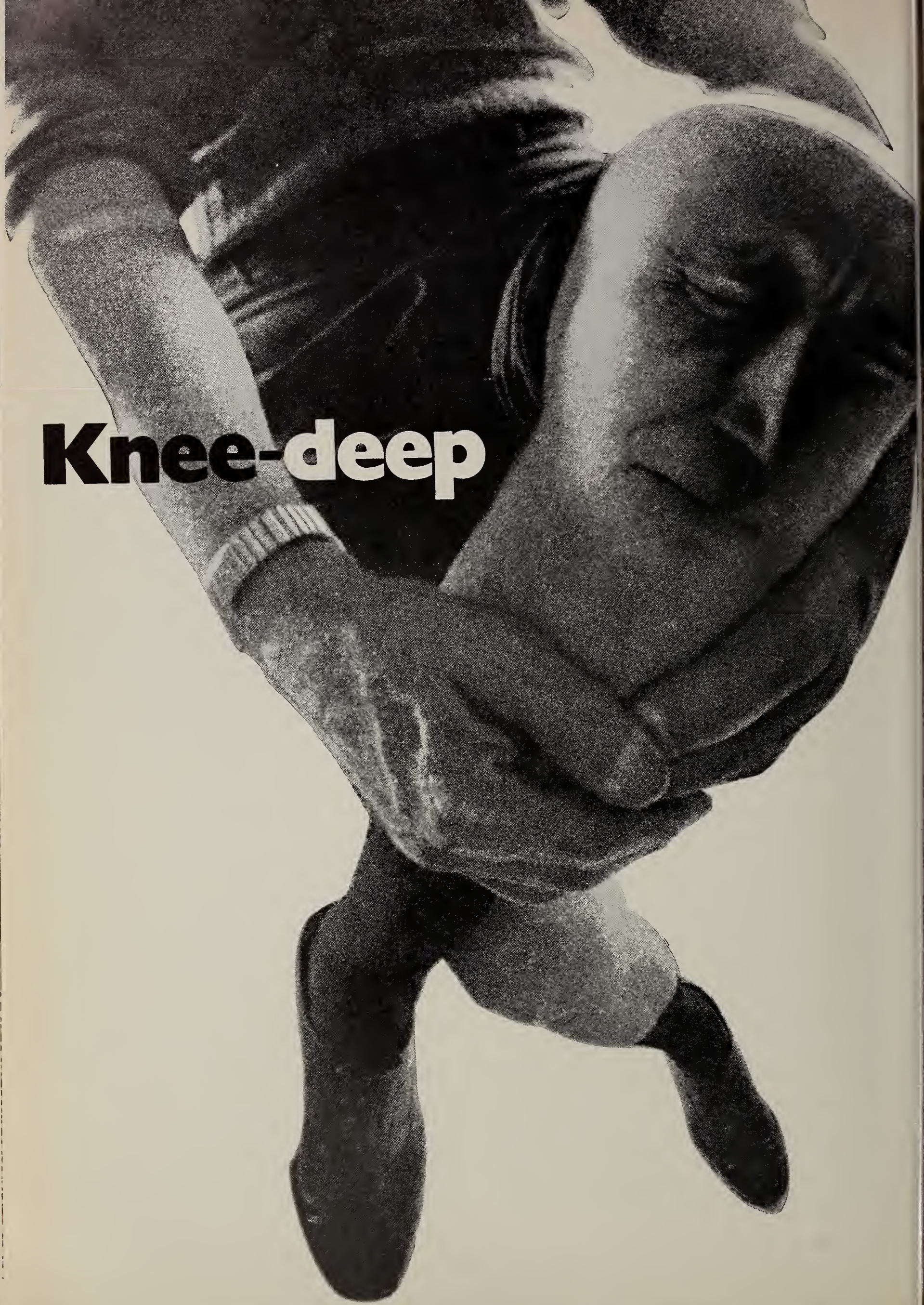
Knee-deep

COMMON ANESTHESIA EMERGENCIES AND THEIR TREATMENT

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One of the commonest drug emergencies is that of an untoward reaction to the drug. In the operating area, the group of drugs usually associated with this type of reaction is that of the local anesthetics — procaine, pontocaine, xylocaine, etc. There are three basic types of reactions and we shall consider each type.

It is rare for an individual to react to the drugs in a true allergic sense. But this is the manner in which patients tell you about previous drug experiences — "I'm allergic to local." An allergic reaction associated with these drugs would manifest itself in the manner of all allergic reactions — rash, skin wheals, edema, hypotension and bronchospasm. The treatment for this type of reaction would be the treatment of any acute allergic reaction — vasopressors, bronchodilators and rapid acting antihistamines. This type of reaction is so rare that it probably will not be seen in a general medical or surgical practice. Dr. Adriani of New Orleans states that it occurs in about one in ten million local anesthetic administrations.

A more common reaction, but still rare, is that associated with the vasopressor agent in the local anesthetic—usually adrenalin. The history of the previous reaction is usually constant — it happened in the dental office. The reaction is usually associated with tachycardia, light headedness, sense of uneasiness. The patient states that he doesn't feel well, may become nauseated. Unless the patient has severe heart disease the most serious aspect of this reaction is the pounding of the heart and apprehension. Usually no treatment is necessary other than to reassure the patient.

The common drug reaction with local anesthetic agents is a toxic drug reaction. There are definite safe mgm. dose levels for all agents; levels which should not be exceeded—Procaine, 1000 mgm.; Metycaine, 750 mgm.; Xylocaine, 500 mgm. and Pontocaine, 100 mgm. There is little difference if these solutions are injected in a 2%, 1% or 0.5% concentrations, reaction usually will not occur unless mgm. dose levels are exceeded.

Most drug reactions occur within a 5 to 15 minute period after the injection. The action of the drug on the various organs will depend on the amount injected and the rapidity of absorption and ultimate blood level of the drug.

With rapid absorption, the patient becomes somnolent, which rapidly develops into a deep coma. Respirations cease and profound hypotension develops. The treatment for this — within seconds—is the administration of a rapid acting vasopressor to sustain blood pressure and manual ventilation of the lungs with 100% oxygen. The patient must be actively ventilated because of the respiratory depression caused by the drug action of the medulla and pons. Without treatment, death under these circumstances

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is due to cerebral hypoxia or anoxia due to either improper cerebral perfusion or inadequate ventilation.

The more common reaction due to toxicity is not from a rapid absorption, but a gradual increasing level of the drug in the blood. At first the patient complains of being uncomfortable and apprehensive, some may become euphoric. Shortly afterward hypotension develops, bradycardia is present, the skin will become pale and moist. Soon loss of consciousness will develop, the respirations may become slow, shallow, irregular or may cease. Twitching about the face and in the hands usually precedes a generalized convulsion. With the development of any of these symptoms the administration of the drug should be discontinued. Blood pressure must be supported to normal levels by a rapid-acting vasopressor. Ventilation must be supported by active manual ventilation with 100% oxygen. The addition of carbon dioxide to oxygen—CARBOGEN 5% CO_2 and 95% O_2—to stimulate respiration should not be used. In a depressed patient the addition of carbon dioxide will act as a respiratory depressant instead of acting to stimulate respiration.

Convulsions are to be controlled by small intravenous injections of a rapid-acting barbiturate—Pentothal, Amytal or Luminal. Enough barbiturate must be given to stop the convulsions, but not enough to produce general anesthesia. A second method of stopping convulsions is the administration of a muscle relaxant — succinylcholine. This drug will produce total muscle paralysis without central nervous system depression. Because of the muscle paralysis assisted pulmonary ventilation is mandatory.

PROBLEMS OF AIRWAY MANAGEMENT

The protection of the airway is probably one of the more important functions of the anesthesiologist and all medical personnel — in and out of the operating room.

The airway — like the circulation — must be maintained. Obstructions to the free flow of oxygen and carbon dioxide can not be tolerated for short periods of time. The common site of obstruction of the airway is at the level of the larynx. The obstruction may be caused by foreign bodies, teeth, blood, mucus and food. In many cases the presence of the foreign body also causes an intense adduction of the vocal cords.

A mechanical loss of the airway is usually noticed by the presence of an inspiratory stridor, the use of accessory muscles of respiration, decreased volume of inspired air, prolonged expiratory time. Breathing room air will lead to hypoxia and usually cyanosis and carbon dioxide retention. Breathing an oxygen rich mixture during anesthesia will not lead to hypoxia but only to carbon dioxide retention during respiratory obstruction. The mechanical obstruction is corrected by the removal of the obstruction, be it teeth, food, blood or any other foreign bodies. If the obstruction is due to the soft tissues of the pharynx and tongue the simple extension of the neck and elevation of the jaw will relieve the obstruction. Unless properly inserted an oral pharyngeal airway commonly used in surgery and the emergency room may impact the base of the tongue over the larynx instead of relieving the obstruction.

In the presence of hypoxia, hypercarbid and foreign bodies the vocal cords may develop a tight adduction. This laryngospasm is usually serious and many even be life threatening. Hypoxia develops rapidly and attempts at instrumentation usually lead to further spasm. Before a disaster occurs the larynx will relax and there is time — seconds — to force oxygen into the lungs. Oxygen must be applied under pressure during the period of spasm. A muscle relaxing drug must be given to produce paralysis of the laryngeal muscles to release the spasm. A last resort treatment for laryngospasm is immediate tracheostomy; in the absence of surgical instruments for performing a tracheostomy, a 13 gauge needle may be inserted into the trachea in the midline through the cricothyroid membrane.

A common fault during anesthesia is the use of an endotracheal tube of such a length to allow the tube to enter the right main bronchus. This allows all of the ventilation to take place on the right side only. The output of the right ventricle is still half to the left lung: this situation: uneven ventilation — perfusion will ultimately lead to arterial oxygen desaturation and tissue hypoxia. In a critically ill patient or in a patient who is being given a relatively low concentration of oxygen — such as during nitrous oxide anesthesia — this desaturation may be of such a degree as to compromise the patient's well being.

PROBLEMS OF CARDIOVASCULAR MANAGEMENT

Changes in blood pressure and pulse rate are continuing constantly during anesthesia. There is no such thing as a patient who maintains a blood pressure and pulse rate at constant levels during anesthesia and surgery. With the use of constant recorders we know that blood pres-

sure, pulse rate, oxygen consumption, carbon dioxide elimination, venous pressure and many more perimeters are constantly changing.

The electrocardiographic monitoring of a patient under anesthesia is becoming more and more common. Lead II is usually selected because it most commonly displays the P-wave. By monitoring the electrocardiogram abrupt changes in rate and rhythm may be detected. During surgery it is possible to detect changes in T-wave and ST-segment which denotes myocardial ischemia. However, electrocardiographic monitoring should not take the place of other forms of patient monitoring - i.e., respiratory rate and depth, pulse rate, blood pressure, and the visual condition of the patient.

Pulse rate may vary considerably during anesthesia. Generally speaking a sinus rate of 30 to 150 will cause little or no change in cardiac output and hence blood pressure over a short period of time. Rates of greater than 120 for long periods of time should be viewed with alarm. Such things as fever, decreased blood volume, insufficient depth of anesthesia, dehydration, hypoxia and carbon dioxide retention must be sought. Fast rates should be treated with the basic etiology and if these measures fail the rate should be slowed by one of several mechanisms. Carotid sinus pressure, eye pressure or a combination of eye and carotid pressure should be tried to evoke a vagal effect. If this fails rapid digitalization may be indicated to slow the rate. This can be accomplished by the intravenous injection of Cedilanid, 0.8 mgm., and observe the effect. Fifteen to twenty minutes later 0.4 mgm. may be injected to complete the digitalization. Routine digitalization pre-operatively has been advocated by many for all patients over 65 to 70 years, especially if Halothane anesthesia is to be utilized. Another mechanism to reduce heart rate and certain ventricular arrythmia is to administer a beta adrenergic blocking agent—Propranolol (Inderal). This drug must be used with care, especially in patients with diabetes and asthma.

A slow rate of 40 to 60 is of no consequence as long as it is sinus in origin and the slowness does not interfere with cardiac output as judged by changes in blood pressure. A slow rate usually denotes a predominant parasympathetic response to surgical stimulus or anesthetic drugs. The rate may be converted to a more comfortable rate by the intravenous injection of atropine sulfate, 0.1 mgm. every 5 minutes until the rate is 80 per minute.

Changes of rate together with the development of a nodal rhythm is probably the commonest electrocardiographic abnormality seen during anesthesia. A nodal rhythm or a rhythm showing a wandering pacemaker requires no treatment and probably occurs in 30 to 40 percent of Halothane, cyclopropane, or diethyl ether anesthesia.

The development of premature ventricular beats, bigeming rhythms, multifocal ventricular beats and ventricular tachycardia can be considered as an emergency situation. The development of these arrythmias denotes a major myocardial disturbance. This may be in the form of hypoxia or the sensitization of the myocardium by anesthesia agents to circulating catecholamines. Certain foci of the brain — hypothalamus, pons, medulla and the floor of the 4th ventricle may be responsible for these arrythmias if subjected to injury or ischemia.

Treatment is aimed at the improvement of blood flow to the myocardium, increase in oxygen concentration of the blood and elimination of those anesthetic drugs which produce sensitization. Usually these maneuvers will convert the arrythmia back to a normal rhythm. If the arrythmia should continue it may be possible to correct the rhythm disturbance by the intravenous administration of procaine amide (Pronestyl) or by the infusion of a 0.1% Xylocaine solution. Again in these instances the administration of a beta adrenergic blocking agent may convert the arrythmia.

Blood pressure falls during surgery are expected. The nature of anesthetic drugs is to produce a reduction in the force of myocardial contraction and to produce a decrease in peripheral resistance. During the anesthesia state the combined effect of the reduced myocardial contraction and the decrease in peripheral resistance results in an increased blood flow or tissue perfusion to lung, liver, kidney and brain. Let us not think that the patient is in jeopardy because we find a 10 to 20% reduction in peripheral blood pressure. We must think of blood pressure as an expression of the relationship between cardiac output and peripheral resistance.

Venous pressure determinations are being used during surgery to assess fluid volume changes. A central venous determination simply indicates the level and changes in right atrial pressures. The right atrial pressure can be thought of as being dependent upon the venous return to the heart and upon the ability of the right ventricle to pump blood away from the

heart through the lungs. If the force of ejection from the right ventricle remains constant then changes in venous pressure relate changes in venous return and circulating blood volume. In the absence of major myocardial disturbances and changes in levels of anesthesia, venous pressure changes can easily be related to fluid loss and low central venous pressures can be corrected with administration of blood or fluids.

Vasopressors have a role in the treatment of hypotension in the operating room. Reflex changes, anesthetic drugs and changes in position may affect blood pressure through the peripheral resistance mechanism. Drugs which act to increase the peripheral resistance can be used to bring the blood pressure back to within normal levels. The use of peripheral acting drugs has a minimal role in low blood pressures due to low circulating blood volume. In these instances the distal vasoconstriction usually aggravates an already existing tissue hypoxia.

Hypertension can occur during anesthesia and surgery. The causes are usually considered to be benign and require little or no treatment. Hypertension which persists during the surgery despite the addition of anesthetic agents must be thought of as due to a possible pheochromocytoma or carcinoid tumor.

All of the preceding emergencies by themselves can be major or minor. The treatment of each usually is specific — if done early an emergency doesn't exist; if done late, a serious emergency exists.

Drug reaction; loss of the airway with hypoventilation and carbon dioxide excess, hypoxia and elevated catecholamines; hypotension; ventricular arrythmias can in themselves or in combinations lead to the greatest emergency — cardiac arrest.

Cardiac arrest appears in about 1:10,000 surgical procedures. The arrest may be either an asystole or ventricular fibrillation. Asystole is the complete cessation of myocardial contraction, whereas, ventricular fibrillation is an ineffective and uncoordinated contraction of the irritable myocardium. Regardless of the type of collapse, the ultimate effect is tissue hypoxia and death—usually within three to four minutes. The prognosis of the arrested patient depends upon the prompt diagnosis and the rapid institution of an effective beat. If this is delayed beyond a three to four minute period an even greater disaster may occur: The survival of the patient without survival of the cerebral cortex.

To begin effective treatment consists of administration of 100% oxygen, maintenance of an adequate airway and the restoration of an effective heart beat. The heart beat can be done by manual compression of the myocardium through a thoracotomy incision or through the diaphragm during upper abdominal surgery. The closed chest method of Kawenhoven is adequate in most instances. The principles of the method are simple. The heart lies between the sternum and the vertebral column. The lateral movement of the heart is limited by the pericardium. Depression of the sternum causes compression of the heart — simulating systole. In the unconscious patient the anterior chest wall is pliable and pressure applied to the sternum is transmitted to the heart. This is done with little if any damage to the ribs or sternum. Undue or widely spread pressure may fracture ribs, tear lung tissue, lacerate the liver and spleen.

In the initial phases of treatment of cardiac arrest drugs are of no value. The two principles of resuscitation are adequate pulmonary ventilation with 100% oxygen and manual compression of the heart to simulate systole. After an effective beat is restored and the tissues of brain and heart receive oxygen definitive treatment can begin. This will include vasopressors to increase the peripheral resistance, positive acting pressor drugs to increase force of the myocardial contractions, calcium ion to increase strength of contraction, and bicarbonate ion (HCO_3-) 44 mEq for every 4 to 5 minutes of circulator arrest to reduce metabolic tissue acidosis.

HIGH COST OF LIVING

The typical family of four requires $14,000 a year to have the same purchasing power it had in 1939, according to the National Industrial Conference Board. In 1939, a $5,000-a-year man with three dependents had nearly $5,000 to spend in after-tax dollars. Today, however, he needs about $14,000 to net the same because taxes chip away more than $2,000 and inflation more than $7,000.

VISITS TO MDs DROP 4%

Patient visits to physicians' offices declined by nearly 4 percent last year from the previous year, according to the National Disease and Therapeutic Index. The report showed that there were 1,266,631,000 patient visits in 1967 as compared with 1,315,130,000 in 1966. This decline was the first recorded in this category since the start of the NDTI in 1956.

CLINICOPATHOLOGICAL CONFERENCE

From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Departments of Pathology of the Hospital and of the School of Medicine of the University of South Dakota

JOHN F. BARLOW, M.D., F.C.A.P.*
Pathologist - Editor

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Internist - Discusser

Fifty-Six Year Old Man With Sudden Pain in the Leg

CASE A 67-15

This 56-year old Caucasian male entered the hospital with a chief complaint of numbness and flushing of the right lower extremity.

The patient gave a history of rheumatic fever with joint pains at age 10. A systolic apical murmur had been heard since he was a young man, but there were no signs or symptoms of congestive heart failure.

Twenty months prior to admission, the patient was involved in an automobile accident for which he was hospitalized for three days with rib fractures and chest compression. Subsequent to the accident he developed dyspnea on exertion and had some enlargement of the cardiac silhouette on X-ray. On physical examination a harsh grade II/IV systolic precordial murmur as well as a grade II/VI diastolic blow were heard. Both murmurs were referred into the right side of the neck. He was evaluated at a cardiology clinic by angiogram and cardiac catheterization. The diagnosis was dilatation of the aortic valve ring and widening of the ascending aorta, probably traumatic, with incompetent sinuses of Valsalva together with some aortic regurgitation. The patient did well without cardiac medications. He was hospitalized for cystitis fifteen months before admission and for pain in the back and stiffness with radiation of pain into the right buttock and right thigh twelve months prior to admission. The diagnosis on the latter admission was degenerative disc disease of L2 and L3. Thirteen months prior to admission he developed chilly sensations, nausea and vomiting. These symptoms subsided within a few days. Two blood cultures were negative.

The past history revealed an episode of prostatitis several years previously. Review of systems was unremarkable except for recurrent back discomfort dating from the accident.

The patient was relatively well until the afternoon of admission when he developed flushing of the right lower extremity followed by flushing generally. This was followed by numbness and some pain in the extremity and buttock.

Physical examination revealed pulse of 80/min. which was regular and a B/P of 136/70. Respirations were 24/min. The patient was pale and in obvious distress. There were no abnormalities of the head and neck. The chest was clear to auscultation and percussion. The examination of the heart was as described previously. There was a good left femoral pulse and no palpable femoral pulse or any pulse in the right lower extremity. The right leg was cool, could not be moved and was areflexic. There was no spasm, tenderness, organs or masses palpable in the abdomen. The remainder of the neurologic exam was negative. The patient was of normal body build.

A translumbar aortogram demonstrated a complete occlusion at the origin of the right common iliac artery at the bifurcation of the aorta. There was no significant collateral circulation. A subsequent retrograde study of the right external iliac artery and femoral artery showed no abnormality of vessels distal to the point of obstruction. An emergency exploration of the right common iliac artery showed no definite clot. Pulses were restored to the right leg and the leg became warmer after surgery.

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Urinalysis was amber, turbid, specific gravity 1.033, pH 5.0, protein 3+, glucose neg., ketones neg., sediment was packed with red cells. Hemoglobin was 13.5 grams%, RBC 4.39 million/mm^3, Hct. 40 Vol.%, mean corpuscular hemoglobin 31 micromicrograms, mean corpuscular volume 92 cubic micra, mean corpuscular hemoglobin concentration 34%, WBC 11,900 with 86% polymorphonuclear leukocytes, 14% band forms, 9% lymphocytes and 1% metamyelocytes. The red cells were normochromic, normocytic. The platelets were adequate. The blood urea was 18 mg%, serum glutamic oxaloacetic transaminase 160 units, lactic dehydrogenase 780 units, pH 7.44, CO_2 content 33 meq/L, sodium 144 meq/L, potassium 4.0 meq/L, chloride 104 meq/L. The LDH isoenzyme pattern revealed elevation of the hepatic or skeletal muscle fraction. A creatinine phosphokinase was 224 units (normal 0-12 units). Creatinine was 1.9 mg%, calcium 8.3 mg% (normal 8.3-10.3 mg%). The serology was non-reactive. Electrocardiogram was essentially within normal limits.

Postoperatively the patient had good pulses in both feet. Blood pressure was 200/0, and there was a machinery-like murmur over the entire precordium. The patient had an episode of cardiac arrest in the special care unit several hours following surgery. He was revived by closed cardiac massage. The patient had a peculiar cyanosis of the head and neck which disappeared. The carotid pulsations were present bilaterally. The left radial pulse was of lesser degree than the right. The examination of the heart was unchanged. The lungs were clear to auscultation and percussion. The abdomen was negative. Serial electrocardiograms showed depressed ST segments and reduced amplitude of the T-waves. He was treated with procaine amide for ventricular premature beats. Three days postoperatively the patient had another episode of cardiac arrest which was unresponsive to therapy.

Dr. Lynn DeMarco:

The central point in this middle aged man's history occurred 20 months prior to his last admission at which time a traumatic aortic tear resulted in a subsequent diagnosis of aortic aneurysm with dilatation of the aortic valvular ring. Every subsequent event could probably be related to this catastrophe, in that an aortic tear can seal and subsequently, sometimes long afterwards, the tear can again progress.

Working backwards from his terminal event, it is apparent from his wide pulse pressure and machinery-like murmur that cardiac arrest resulted from a further aortic tear in a retrograde fashion into the aortic valve area with impingement on the origin of the coronary circulation and possible hemorrhage into the pericardium.

The events that led up to his last hospitalization and surgery are quite clear-cut with the diagnosis and surgical substantiation of a right common iliac embolus that originated at the site of the recent aortic tear.

The past history of rheumatic heart disease is not impressive and probably does not have a role in his terminal event. With the wealth of data that we have, it seems reasonable to construe a sequence of events as follows:

Post-traumatic aortic tear with traumatic aneurysm at the site of tear which sealed; a symptomatic aortic retear with bleeding at this site and subsequent thrombosis and embolization into the right leg; right iliac embolectomy; post-operative retrograde aortic retear with compromise of the coronary circulation with cardiac standstill and death.

Dr. Barlow: Dr. Hage took care of this patient. Do you have any comments?

Dr. W. Hage:* Yes. First of all I must emphasize that the chest trauma this man had was characterized by severe torsion of the chest. I feel this helps explain the cardiac findings after the accident. Secondly, there was a sharp change in the patient's murmurs after the operation. Thirdly, on exploration of the right common iliac artery no clot was definitely found. I feel the whole process can be explained by a flap valve at the time of the dissection.

Dr. M. Padwick:** How do you explain the red cells in the urine?

Dr. L. DeMarco: Probable involvement of renal vessels by the dissecting process. Dr. Petereit, will you show the X-rays and tell us a little about the radiologic diagnosis of dissecting aneurysm.

Dr. M. F. Petereit:*** No chest film was taken during this admission. The translumbar aortogram is as described. A chest film prior to admission shows enlargement of the heart probably due to left ventricular hypertrophy. I would also like to state that aneurysms of the aorta due to trauma are usually noted as a bulge or false aneurysm in the arch not in the ascending aorta.

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*Dr. W. Hage, General Practitioner, Sioux Valley Hospital.

**Dr. M. Padwick, Intern, Sioux Valley Hospital.

***Dr. M. F. Petereit, Radiologist, Sioux Valley Hospital.

Dr. Barlow: I agree. The usual traumatic aortic aneurysm is immediately distal to the left subclavian artery at the junction of the aortic arch and descending aorta. The trauma is usually a deceleration type injury such as being thrown forward on to the steering wheel of a car with chest compression. Commonly there is a circumferential tear or complete severance with massive exsanguination but sometimes a slow leak can cause false aneurysm formation. This, of course, can be corrected surgically.[3]

Dr. Petereit: Although X-ray diagnosis did not play a part in this case, I would like to discuss some of the X-ray findings in dissecting aneurysms of the aorta. Even though the therapy of this problem is quite discouraging, an early accurate diagnosis may be quite helpful.

The plain film findings consist of : (1) Increase in size or change in the configuration of the aorta on successive films. However, the films must be made using similar technique i.e., it is difficult to accurately compare a 72 inch erect with a 40 inch AP portable film. (2) Localized hump on aortic arch. (3) Poorly defined descending aortic shadow — normally it is sharply defined. The poor definition of this shadow is supposedly related to edema of the aortic wall. (4) Aortic wall thickening shown by displacement of intimal calcification — there is often a linear streak of calcium in the area of the aortic knob. This calcium involves the intima and normally it is very near the lateral border of the aortic shadow. If this calcification is displaced medially, it implies thickening of the aortic wall and is pathognomonic of an aortic dissection at some time. (5) Hemorrhage into the mediastinum, lung, pleural space or retroperitoneal area.

Unfortunately, a chest film was not made on this patient during his acute illness and therefore, a comparison with his film of two years ago was not possible. Possibly he was too ill to be brought to the X-ray department.

Often it is not possible to make the diagnosis on the basis of the plain films alone (although it can frequently be suggested) and therefore, angiography has had an important application in this disease process. The disease often begins with hemorrhage into the media and even with extensive dissection there may be no intimal tear. Most often the false channel lies anterior and to the right in the ascending aorta, posterior and superior in the arch and posterior and lateral to the true channel in the descending aorta.

The aortogram is performed by passing a catheter into the ascending aorta utilizing the Seldinger percutaneous technique in the femoral area. Films are made in the left anterior oblique or lateral position with the rapid cassette changer. The findings vary with different situations: (1) If the dissection has occurred without an intimal tear the column of opacified blood will be narrower than the total width of the soft tissue aortic shadow. (2) If there is a proximal intimal tear but no distal re-entry (or if the re-entry lumen is small) there will be non-opacification of the false channel on early films and more or less good visualization of it on delayed films. The findings in regard to the true channel are just the opposite i.e., good visualization on early films and none on later films. These findings simply reflect differential blood flow, it being slower in the false channel. (3) If the re-entry lumen is larger and if the false channel is endothelialized, the blood flow in both channels may be equal. Also, if the dissected media is very thin it may not be seen on the contrast medium study. It is here that the "catheter sign" (recently described by Glen Cramer) may be of help. This sign is based on the fact that if a catheter is placed in a fluid-filled curved tube and if a pressure injection is made through the catheter, it will hug the outer wall of the tube during the pressure injection. Similarly, during the injection the catheter hugs the outer wall of the aorta. Normally the distance between the catheter and the posterior margin of the aorta is 2-4 mm. With a dissecting aneurysm the catheter is displaced from the posterior aortic margin. This sign is unreliable with ectasia or coarctation of the aorta.

Dr. K. Wegner:* I think we should stress that dissection of the aorta without inlet or outlet tears has been reported numerous times. Some feel that hemorrhage into the aortic wall initiates the dissecting process. Usually, the hemorrhage ruptures into the lumen and the systolic force of the blood creates an extensive dissecting process.

Mediocystic necrosis like lesions can be produced in animals with lathyrism (sweet pea diet). Dr. Shimamura of the Pathology Depart-

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* Dr. K. Wegner, Pathologist, Sioux Valley Hospital; and professor of Pathology, University of South Dakota Medical School.

Dr. DeMarco's Diagnoses

1. Post-traumatic aortic tear with traumatic aneurysm.
2. Retear at same site with thrombosis and embolization.
3. Extension of aortic dissection.

ment, of the University of South Dakota is investigating the electron microscopy of lathyrism presently.

PATHOLOGICAL DISCUSSION

The gross photographs show the characteristic transverse tear of a dissecting aneurysm with extensive longitudinal extension explaining the presenting symptoms. A massive retroperitoneal hemorrhage as well as pericardial hemorrhage with tamponade was the final event. The dissection involved the right coronary artery and extended down to bifurcation involving the right common iliac artery (Figs. I and II). Section of the dissection is shown (Fig. III). Further microscopic sections demonstrate a striking mediocystic necrosis of the aortic media (Figs. IV and V). There was dilatation of the aorta and aortic valve ring probably resulting in the clinical aortic insufficiency. The changes were secondary to the mediocystic necrosis.

The definition of a dissecting aneurysm or a dissecting hematoma is a condition produced by the penetration of the circulating blood into the wall of a vessel for a varying distance. Dissecting hematoma is a better term because there is not a true swelling or aneurysm. There is a separation of the vessel wall through the media in a circumferential manner and/or in a longitudinal direction in contrast to right angle of a perforation. The length of dissection must be greater than one centimeter. The aorta is most

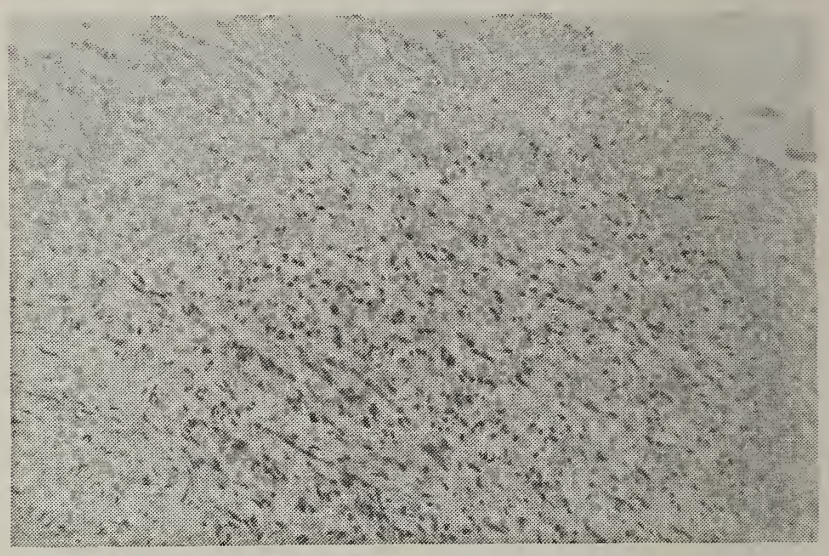
Figure I.

Note transverse tear (upper arrow) and splitting of layers of aorta, the dissection (lower arrow).

Figure II.

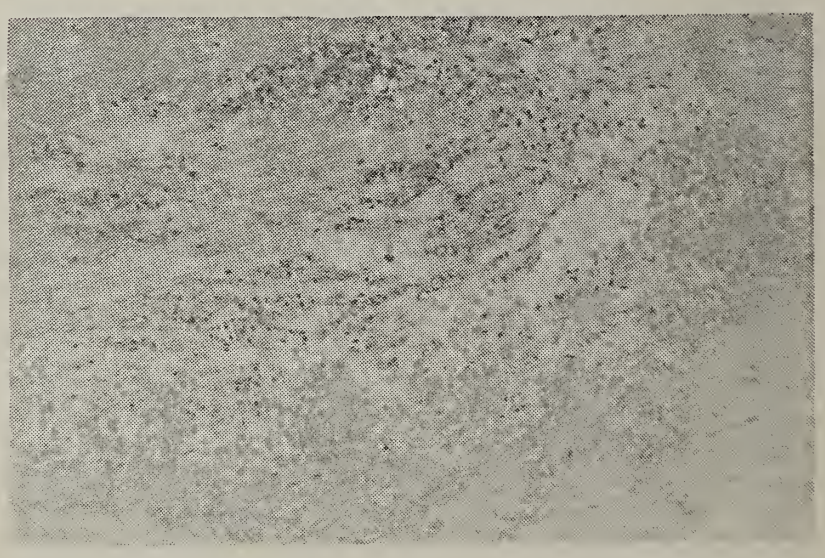
Dissection of aorta in outer media. Some blood in the dissected channel can be seen.

Figure III.



Photomicrograph of normal aorta. Homogeneous closely packed smooth muscle and elastic tissue pattern.

Figure IV.



Note severe disruption of normal aortic pattern by irregular cystic spaces. This is severe mediocystic necrosis.

frequently involved, but isolated dissection of pulmonary, renal, carotid, coronary and other arteries have been described.

Because of the shearing off of one or several of the aortic branches by the dissecting process in various regions of the body, any catastrophe of the chest, abdomen, head or extremities with protean symptoms in many organs may be simulated.

Occupational, ethnic, geographic factors, emotional or physical activity, trauma or time of day have a minor if any role as initiating factors in the ordinary dissecting aneurysm. There is an association with arachnodactyly (Marfan's syndrome), pregnancy, coarctation of the aorta and hypertension.

The onset is usually associated with sudden pain which may continue until death or abate. Recurrence of the pain often means impending rupture. Pain often starts in the chest with progression to the back and abdomen, but may start anywhere. The patient is often pale, sweaty, and cyanotic and in shock with increased pulse and respiration. Particularly helpful is sudden onset of a diastolic murmur of aortic insufficiency. Unequal pulses or blood pressure in the extremities are very helpful. There may be gastrointestinal, urinary, or central nervous system symptoms depending on the branches of the aorta involved in the dissection.

Progressive anemia and icterus from absorption of blood may develop. The white count is

Dissecting Aneurysm — Extent of Dissection

				Shennan's Series 300 Cases		Present Series 443 Cases	
Ascending	Arch	Descending Upper Lower	Abdominal Upper Lower	No.	%	No.	%
X X X X X X	X X X X	X X X X X X X	X X X X X X X	44	14.6	141	31.8
X X X X X X	X X X X	X X X X X X X	X X X	22	7.3	19	4.2
X X X X X X	X X X X	X X X X X X X		2	0.6	10	2.2
X X X X X X	X X X X	X X X		21	7.0	10	2.2
X X X X X X	X X X X			42	14.0	23	5.2
X X X X X X				84	28.0	63	14.2
	X X X X	X X X X X X X	X X X X X X X	5	1.6	26	5.8
	X X X X	X X X X X X X	X X X	1	0.3	8	1.8
	X X X X	X X X X X X X		2	0.6	8	1.8
	X X X X	X X X		0	0	9	2.0
	X X X X			6	2.0	8	1.8
		X X X X X X X	X X X X X X X	40	13.0	4.6	10.4
		X X X X X X X	X X X	12	4.0	17	3.8
		X X X X X X X		3	1.0	27	6.1
		X X X		7	2.3	17	2.2
			X X X X X X X	7	2.3	9	2.0
			X X X	0	0	1	0.2
			X X X	3	1.0	8	2.8

often elevated. The electrocardiogram may be abnormal especially if there is coronary dissection. Radiologic exam shows widening of the aortic shadow.

The incidence of dissecting aneurysm is 1-4% of autopsies, or one in every 5,000-10,000 admissions. The usual age group is 40 to 70 with a three to one male predominance. It is not uncommon in Negroes but rare in orientals.

The pathogenesis of dissecting aneurysm is poorly understood. It is known that the aorta can withstand pressure up to 1000 mm. of mercury.

Even if bleb formation is induced pressure of up to 230 mm. of Hg. can occur without rupture. In fact, true dissections have not been produced experimentally. The role of a highly interesting lesion described by Erdheim and called mediocystic n e c r o s i s has been very controversial. While this is present in many cases, it is absent in other cases. The possibility of trauma initiating mediocystic necrosis in this case is very intriguing but proof for or against the role of trauma in any individual case or in the entity as a whole is difficult to obtain.

A further complication in explaining the cause for the dissection is illustrated in cases where there does not appear to be any "inlet" or "outlet" tear. However, most observers believe that the blood does flow in the dissecting channel and cause the dissection.

The location and extent of dissection in 743 cases from two large series is represented in the following figure taken from Hirst et al.[1]

There is an affinity for the dissection to be in the proximal aorta. Although, the dissection may be extensive only 3.0% of dissections started in abdomen.

The site of the initial tear is almost always proximal as noted in the following table from Hirst et al.[1]

Site of Primary Intimal Tears in Dissecting Aneurysm

Ascending	244
Arch	37
Isthmus	62
Descending Thoracic	41
Abdominal	10

As mentioned almost any branch of the aorta may be affected. This can be shown in the following table from Hirst et al.

Frequency of Involvement of Branches of Aorta in 505 Cases of Dissecting Aneurysm

Celiac (common, external or intimal)	132
Common Carotid	75
Innominate	67
Renals	63
Subclavian	57
Mesenteric	43
Coronary	39
Intercostals	21
Celiac	17
Lumbar	9

In this case obstruction of the iliac artery was the presenting symptom and involvement of a coronary artery may have been partly responsible for demise.

Re-entry tears were found in 64 of 505 cases in one series, and are usually longitudinal.

Sites of Secondary or Re-entry Intimal Tears in Dissecting Aneurysm

Thoracic Aorta	16
Abdominal Aorta	17
Iliac Arteries	22
Carotid	1
Subclavian	1
Not Recorded	7

The cause of death is usually rupture external to the aorta with massive hemorrhage. The most frequent site is the pericardium with tamponade but massive pleural, peritoneal, retroperitoneal or gastrointestinal hemorrhage may occur. In approximately a quarter of the cases, survival over two weeks and sometimes over 6 weeks may occur. In rare instances, the dissected channel may even endothelialize and become the site of atherosclerosis over months or years. These "long" survivors of the acute episodes often die of congestive heart failure which can be secondary to aortic insufficiency due to dilatation of the valve ring produced by the dissection or weakening of the aorta with aneurysm formation due to mediocystic necrosis. Finally, it can be noted that mediocystic necrosis may cause an aneurysm of the ascending aorta with or without associated dissecting aneurysm.

Final Anatomic Diagnoses

1. Dissecting Aneurysm of Aorta with Involvement of:
   a) right coronary artery.
   b) right common iliac artery.

2. Retroperitoneal Hemorrhage (1000 cc. est.).
3. Pericardial Hemorrhage (100 cc.).
4. Extension of Hemorrhage along Pulmonary Vessels.
5. Dilatation of Aorta and Aortic Valve Ring.
6. Mediocystic Necrosis of Aorta.
7. Cardiomegaly, Predominantly Left Ventricular.
8. Nephrosclerosis, Benign.

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WHY HEALTH CARE COSTS ARE RISING

Health care prices rose 66.6 percent from 1950 to 1965 at the same time that consumer demand for services also steadily increased, according to an American Medical Association Department of Survey Research report published in the July 22 issue of **The Journal of the AMA.** During that period, physicians' fees increased 59.9 percent with the annual average increase ranging from a high of 4.4 percent in 1952 to a low of 2.2 percent in 1963. "Since 1950, the health care industry has experienced consistent increases in the quantity and quality of care demanded by consumers. Some of the factors which contributed to this rise in demand are population growth and changes in its age and race distribution, increased education and sophistication by consumers regarding health care, and the ability of the medical profession to provide more and better services," the report said.

STUDY SHOWS RELATION OF EDUCATION LEVEL TO MORTALITY RATES

If non-college educated white adults had had the same death rate as the college educated population, almost 250,000 white Americans might not have died in 1960, according to University of Chicago sociologists Philip M. Hauser and Evelyn M. Kitagawa. Their report that 9 percent of the adult male deaths in 1960 and 29 percent of the female deaths were such "excess deaths" is based upon a study involving death certificates and census information of 340,000 persons who died between May and August 1960. Hauser and Mrs. Kitagawa conclude: "It is of great significance that mortality from most of the causes of death varies considerably with socioeconomic status as measured by educational attainment."

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You might also say that all interns aren't alike, either.

RADIOLOGIC CASE PRESENTATION No. 4

Martin Frank Petereit, M.D.*

This 59-year-old female presented with the chief complaint of back pain. Her initial studies were negative. Her back pain persisted. A few weeks after the film in figure 1 was made (which is negative), urinalysis revealed microscopic hematuria. Following a urologic work-up, the diagnosis of carcinoma of the bladder was made. Subsequently, she underwent a segmental urinary bladder resection. The back pain persisted. Nine weeks after the film in figure 1 was taken, lumbar spine films were obtained (see figure 2). Only the antero-posterior view is presented. This film shows that the 12th thoracic and 1st lumbar vertebral bodies have become sclerotic. D-12 is involved to a greater extent than is L-1. These sclerotic changes were even more apparent on the lateral view. A biopsy of one of these sclerotic lesions disclosed metastatic grade 4 mucinous adenocarcinoma. Later, sclerotic lesions appeared in her ribs and distal femurs.

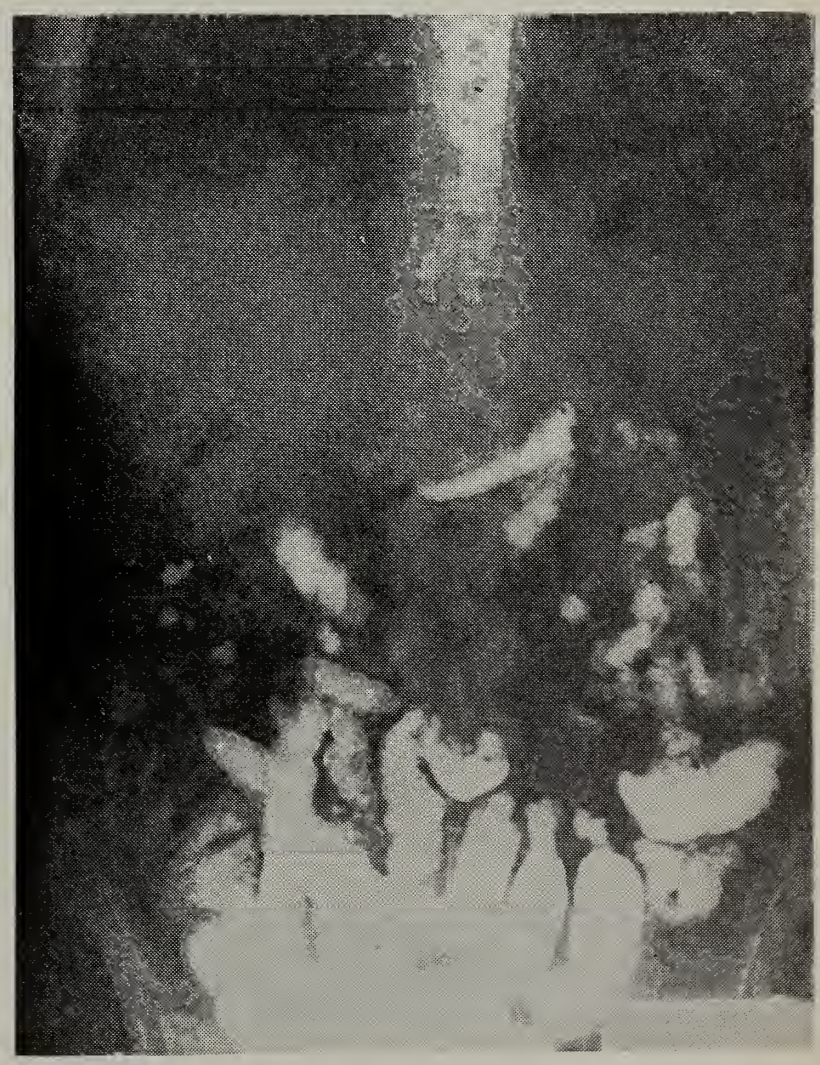
Vertebral Body Metastatic Disease

Metastatic disease to the spine may be osteolytic, osteosclerotic or a combination of the two.

Early osteolytic metastasis may become evident by the "pedicle sign." The normal pedicle is seen on the antero-posterior roentgenogram of the spine as a dense oval shadow. The early involvement of the pedicle with metastatic disease is not uncommon and is due to the fact that each pedicle has an end-artery. As malignant cells invade the pedicle, bone destruction follows and eventually, the dense oval line disappears. As the disease process progresses, the vertebral body may show osteolytic areas. A not infrequent further complication is a pathologic fracture of the vertebral body. With this type of fracture, there is uniform compression of the entire vertebral body, whereas, with a traumatic compression fracture, there is usually anterior wedging of the vertebral body. However, probably the most common cause of a single pathologic fracture of a vertebral body in adults is multiple myeloma (in children it is eosinophilic granuloma). The pedicle sign is helpful in differentiating metastatic disease from multiple myeloma. In the latter, the pedicle is not involved early since it does not contain marrow.

* Medical X-Ray Center, Sioux Falls, South Dakota.

Figure 1.



Abdominal film of a 59-year-old female who presented with back pain. The contrast medium in the bowel may be ignored.

Figure 2.

Similar film (actually an antero-posterior view of her lumbar spine) taken nine weeks later.

Osteosclerotic metastasis to a vertebral body may be localized or generalized, depending on the stage of the disease. Occasionally, one is confronted with the problem of a single sclerotic vertebral body. The usual differential diagnosis in this situation is metastatic disease, osteitis deformans (Paget's disease) and hemangioma. Also, when Hodgkin's lymphoma involves bone, it often leads to sclerotic changes. The most common cause of metastatic disease in the female is carcinoma of the breast (in the male it is prostatic carcinoma). In Paget's disease, there is subperiosteal deposition of bone which thickens the cortex and gives the vertebral body a square appearance. If hemangioma is the reason for the sclerosis, it is sometimes characterized by the presence of vertical striations and/or phleboliths.

Discussion

This patient had persistent back pain for at least two months prior to the discovery of the sclerotic vertebral bodies. It is almost certain that malignant cells had invaded the bodies of D-12 and L-1 at the time the patient developed her back pain. This sequence of events is not at all unusual with metastatic disease to bone. Even if the process is osteolytic, it is well known that the plain film will be negative until more than 35% of the calcium has been removed. It is in this type of problem that bone scanning has found its most useful application. That is, the plain film may be normal, but the bone scan will show an abnormal collection of the isotope.

Carcinoma of the urinary bladder spreads most often to the external iliac, hypogastric and common iliac lymph nodes. It is well known that the chance of metastasis is much less and that the prognosis is much better when the neoplastic process has not reached the half-way level within the muscularis. Distant metastasis may be to skin, liver, lungs, pleura, abdominal organs and bone. The spread to bone is seen in 5% of these cases. Jewett (1952) claimed that about one-third of cases with distant metastasis do not have regional involvement.[1]

In 1954, Fletcher reported 22 cases of bladder carcinoma with skeletal metastasis. Eighty-six percent were osteolytic, 9.3% were osteoblastic and 4.6% were mixed.[1]

Abrahms analyzed 1000 consecutive cases of malignant neoplasms of epithelial origin and found that 27.2% had spread to bone. The spread in order of frequency was: prostate 84%, breast 73%, thyroid 50%, lung 32%, bladder 26%, kidney 23.5% etc. Vertebral metastasis from carcinoma of the urinary bladder is probably via the vertebral veins of Batson.[2]

In general, the bones most often involved in metastatic disease are: ribs, vertebra, skull, pelvis, humeri and femurs. Involvement below the elbows and knees is rare, but many exceptions have been seen.

It is of interest that when the mucinous types of adenocarcinoma (from stomach, colon, urinary bladder, etc.) spread to the skeleton, the bone lesions are often sclerotic.

Not infrequently, a "metastatic survey" is requested, usually for a patient with a known malignancy. The question is, what films will be the most productive in the highest percentage of cases? It seems somewhat impractical to obtain "total body" films on all of these patients. The following views are suggested: AP and lateral skull and entire spine, PA chest, oblique ribs, AP pelvis, AP humeri and AP femurs. Additional films of any of these areas can be obtained if there are any suspicious findings. Films below the elbows and knees are almost always unrewarding unless there are symptoms referable to these areas.

Conclusion

A case of metastatic mucinous adenocarcinoma of the urinary bladder to the vertebral bodies of

D-12 and L-1 is presented. Types of vertebral body metastatic disease are discussed. An approach to the "metastatic survey" is suggested.

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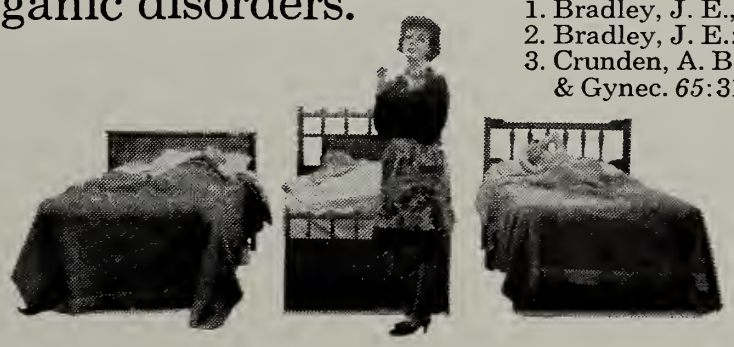

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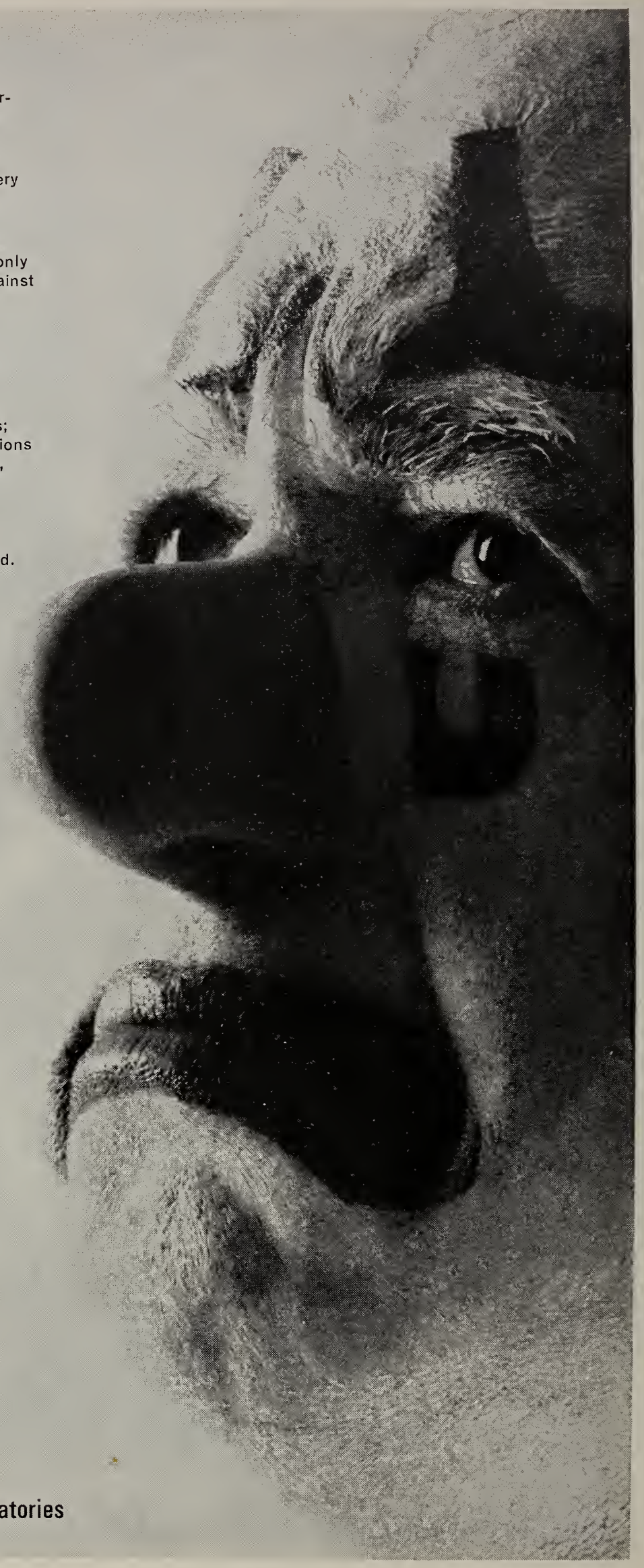

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THYROID BINDING PROTEINS

Protein bound iodine consists of thyroxine, triiodothyronine and mono and diiodotyrosines bound reversibly to serum proteins. The unbound thyroxine and triiodothyronine are referred to as "free hormone" and as such represent the metabolically active components of the thyroid gland secretion. Approximately 99.9% of T-4 and 98.5% of T-3 is protein bound. Therefore, a given amount of unbound T-3 is fifteen times more active metabolically than is a similar amount of unbound T-4. Protein bound T-4 and T-3 are metabolically inactive. However, equilibria exist between bound and unbound T-3 and T-4 so that as free T-3 and T-4 are metabolized more T-3 and T-4 are released from the protein according to the following scheme:

Free T-3 $\rightleftarrows$ Protein bound T-3

Free T-4 $\rightleftarrows$ Protein bound T-4

Normally, the level of free hormone serves as part of a feed-back mechanism to control thyroid stimulating hormone (TSH) secretion by the pituitary. With increase in free hormone the TSH secretion is lowered and thyroxine production is therefore reduced. Conversely as the level of free hormone in the blood decreases, TSH secretion is increased and thyroxine production is increased. When this normal physiologic mechanism fails, however, increased levels of free hormone result in hyperthyroidism and decreased levels of free hormone result in hypothyroidism.

An understanding of the role of the thyroid binding proteins (frequently termed thyroxine binding proteins) will help clarify the alterations in the PBI and T-3 uptake that are found in various disease states and that follow drug therapy of various sorts. There are three groups of thyroid binding proteins in the serum; these are thyroid binding globulin (TBG), thyroid binding prealbumin (TBPA) and thyroid binding albumin (TBA). TBG has the greatest and TBA the least affinity for the thyroid hormones. The amount of free hormone is directly related to the level of thyroid binding proteins as well as to the circulating level of T-4 and T-3. However, if the thyroid and the pituitary are functioning normally the level of the free hormone is maintained at fairly normal levels in spite of variations in the level of thyroid binding proteins. Therefore, although the level of PBI and T-3 uptake vary with the level of thyroid binding proteins, the patient's metabolic status is almost always euthyroid because the free hormone level is within normal limits. (However, there are a few cases of hypothyroidism in which the decreased level of free hormone is directly attributed to an increase in the thyroid binding proteins.)

Those conditions in which the thyroid binding proteins are increased include:

Estrogen and antiovulatory drug therapy
Pregnancy
Infancy
Some cases of liver disease
Recent thyroid surgery
Some cases of idiopathic hypothyroidism
Congenital increase—genetically controlled other than those cases of idiopathic hypothyroidism

All these causes of elevated TBP are usually associated with euthyroidism even though PBI is elevated and the T-3 uptake is decreased.

Those conditions resulting in decreased TBG with euthyroidism, decreased PBI and increased T-3 uptake include:

Drug therapy with ACTH, cortisone, androgen, salicylates, Dilantin, anticoagulants and others
Nephrotic syndrome
Stress, fever, recent surgery, chronic illness and respiratory acidosis.

Therefore, it can be understood that the level of PBI and T-3 uptake can serve as a useful index of thyroid binding protein only if the concentration is within normal limits. In those conditions in which the level of TBG is altered by illness or drugs other findings must be utilized by the clinician to evaluate the patient's thyroid status. In the final analysis it is the level of free hormone which determines this state. It is hoped that methods which do not depend upon iodine assay can be devised for readily measuring free thyroxine. Unfortunately, there is such a small amount of free thyroxine in the blood that quantitation based upon its iodine content is not possible except by methods which are not within the realm of "routine" analysis.

The direct measurement of thyroid binding proteins is not feasible as a routine procedure.

THE BETTMANN ARCHIVE

Just one tablet at bedtime • Prevents painful night leg cramps • Permits restful sleep

How many of your patients stamp their feet at night and lose sleep because of painful leg cramps? Unless prompted, they usually fail to report this distressing condition and suffer needlessly.

One tablet of QUINAMM at bedtime usually controls distressing night cramps and permits restful sleep with the initial dose.

Prescribing information—Composition: Each white, beveled, compressed tablet contains: Quinine sulfate, 260 mg., Aminophylline, 195 mg. **Indications:** For the prevention and treatment of nocturnal and recumbency leg muscle cramps, including those associated with arthritis, diabetes, varicose veins, thrombophlebitis, arteriosclerosis and static foot deformities. **Contraindications:** QUINAMM is contraindicated in pregnancy because of its quinine content. **Side Effects/Precautions:** Aminophylline may produce intestinal cramps in some instances, and quinine may produce symptoms of cinchonism, such as tinnitus, dizziness, and gastrointestinal disturbance. Discontinue use if ringing in the ears, deafness, skin rash, or visual disturbances occur. **Dosage:** One tablet upon retiring. Where necessary, dosage may be increased to one tablet following the evening meal and one tablet upon retiring. **Supplied:** Bottles of 100 and 500 tablets.

THE NATIONAL DRUG COMPANY
DIVISION OF RICHARDSON-MERRELL INC.
PHILADELPHIA, PENNSYLVANIA 19144

Most workers think that the value of PBI or T_4 by column and the T_3 uptake can allow one to evaluate indirectly the level of thyroid binding protein—principally TBG. Quantitative measurement of TBG provides little more information of value than can be obtained from the evaluation of the above parameters.

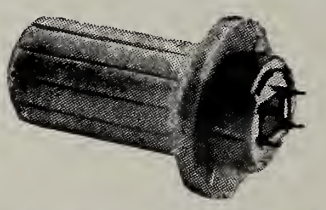
Clinical Condition	Findings of Thyroid Test PBI	T3	T4	TBG	Thyroid Status
Normal Pregnancy	+	—	+	+	Euthyroid
Threatened abortion	N	N	N	N	Euthyroid
Hyperthyroidism	+	+	+	N	Hyperthyroid
Hypothyroidism	—	—	—	N	Hypothyroid
Hypothyroidism controlled with thyroxine	N	N	N	N	Euthyroid
Hypothyroidism controlled with T3	—	+	—	N	Euthyroid
Nephrosis	—	+	—	—	Euthyroid
HORMONES					
Estrogens & Antiovulatory Drugs	+	—	+	+	Euthyroid
Androgens & Steroids	—	+	—	—	Euthyroid
DRUGS					
Salicylates	—	+	—	N	Euthyroid
Dilantin	—	+	—	N	Euthyroid
Dinitrophenol	—	+	—	N	Euthyroid
Tetrachlorthyronine	—	+	—	N	Euthyroid
GENETIC ABNORMALITIES					
TBG Deficiency	—	+	—	—	Euthyroid
TBG Excess	+	—	+	+	Euthyroid

+ = increase
— = decrease
N = normal or no change

Tuberculosis? Influenza?
Pneumonia? Leukemia?
Hodgkin's Disease? Syphilis?
Systemic Fungal Diseases?
Chronic Chest Diseases?
or

HISTO?

(Histoplasmosis—"The Masquerader")



A new aid in differential diagnosis

HISTOPLASMIN, TINE TEST
(Rosenthal)

The LEDERTINE™ Applicator with the Blue Handle

Precautions—Nonspecific reactions are rare, but may occur. Vesiculation, ulceration or necrosis may occur at test site in highly sensitive persons. The test should be used with caution in patients known to be allergic to acacia, or to thimerosal (or other mercurial compounds).

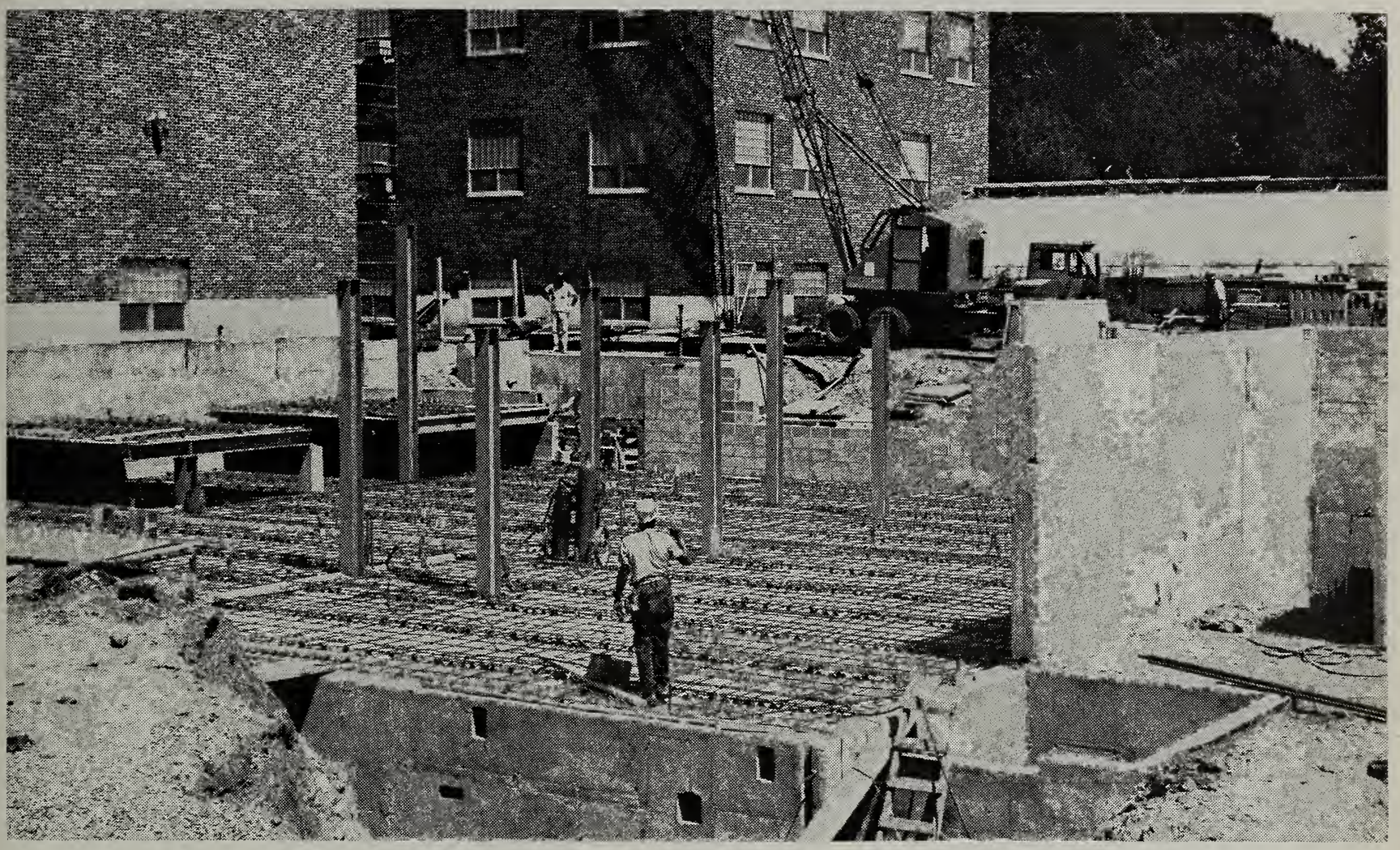
Lederle

Ask your representative for details or write Medical Advisory Dept., Lederle Laboratories, Pearl River, New York 10965. 406-8

THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR



MEDICAL SCHOOL CONSTRUCTION

Construction of the new wing of the Medical School is progressing roughly on schedule. The photo above was taken from the parking lot looking northeast and shows the construction on one of the southward extensions.

The area shown above, which will be the ground floor, will house the two additional Gross Anatomy cubicles (left) and faculty office-laboratory areas (center). Above these areas and supported on the upright beams (center) will be the amphitheater-auditorium. The area to the right of the concrete wall (right) will become various types of equipment and storage rooms.

The area to the extreme lower left in the photograph is the location of the second south wing and east-west connection. However, this section has not yet been excavated because the area remaining around the construction site would not be large enough to permit the use of the large cranes that would be required if all the excavation were completed at the same time.

The workmen are shown preparing the ground floor of the addition on which the concrete floor was poured a few days after this picture was taken. Contractors estimate that the wing will be completed and ready for occupancy in about a year in time for the 1969 session.

This advertisement for TAO® (triacetyloleandomycin), published at the request of the Food and Drug Administration, replaces a recent one which the FDA regards as misleading.

The advertisement headlined "new evidence for TAO . . ." and emphasized that the drug is "for the frequently seen respiratory infection in the office and for a problem pathogen* in the hospital. *Staphylococcus aureus."

We emphasize that triacetyloleandomycin is to be used only for acute, severe bacterial infections where adequate sensitivity testing has demonstrated susceptibility to this drug and resistance to other less toxic agents. In view of the possible, but reversible, jaundice and hepatotoxicity of this drug, other less toxic agents should be used unless the organism is resistant to those agents, or in those cases where hypersensitivity precludes their use.

TAO is contraindicated in preexisting liver disease or dysfunction, and in individuals who have shown hypersensitivity to the drug.

The advertisement emphasized that no tooth staining has been reported after ten years of use of this antibiotic. The Food and Drug Administration regards this claim as an implied comparison suggesting that triacetyloleandomycin and tetracycline have a similar antibacterial spectrum of effectiveness, and that TAO has less toxic potential. Any such implication is not intended and, of course, would be invalid.

The advertisement referred to a research study in which patients were given triacetyloleandomycin prior to determining the susceptibility of the offending organism. Any suggestion that triacetyloleandomycin be used clinically without first determining susceptibility of the offending organism should be disregarded.

J. B. ROERIG DIVISION
CHAS. PFIZER & CO., INC.
235 EAST 42nd STREET
NEW YORK, N.Y. 10017

TAO®(triacetyloleandomycin)
Brief Summary

INDICATIONS: Include streptococci, staphylococci, pneumococci and gonococci. Recommended for acute, severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic and resistance to less toxic agents.

CONTRAINDICATIONS: Contraindicated in pre-existing liver disease or dysfunction, and in individuals hypersensitive to the drug.

PRECAUTIONS: CAUTION: USE OF THIS DRUG MAY PRODUCE ALTERATIONS IN LIVER FUNCTION TESTS AND JAUNDICE. CLINICAL EXPERIENCE AVAILABLE THUS FAR INDICATES THAT THESE LIVER CHANGES WERE REVERSIBLE FOLLOWING DISCONTINUATION OF THE DRUG.

Not recommended for prophylaxis or in the treatment of infectious processes, which may require more than ten days continuous therapy. In view of the possible hepatotoxicity of this drug when therapy beyond ten days proves necessary, other less toxic agents should be used. If clinical judgment dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, and the drug should be discontinued at the first evidence of any form of liver abnormality. When treating gonorrhea in which lesions of primary or secondary syphilis are suspected, proper diagnostic procedures, including dark-field examinations, should be followed. In other cases in which concomitant syphilis is suspected, monthly serological tests should be made for at least four months. When used in streptococcal infections, therapy should be continued for ten days to prevent the development of rheumatic fever or glomerulonephritis. The use of antibiotics may occasionally permit overgrowth of nonsusceptible organisms. A resistant infection or superinfection requires re-evaluation of the patient's therapy. In the event such occurs with this drug the medication should be discontinued, and specific antibacterial and supportive therapy instituted.

ADVERSE REACTIONS: Although reactions of an allergic nature are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions.

ROERIG

J. B. ROERIG DIVISION
CHAS. PFIZER & CO., INC.
235 EAST 42nd STREET
NEW YORK, N.Y. 10017

BLUE SHIELD FACES UP TO CHALLENGES

"Because of its major role in the financing of health care, Blue Shield has influenced the medical-economic environment, has itself been altered by outside forces, and faces a future which is at once promising and troubling," according to Carl R. Ackerman, M.D., Chairman, National Association of Blue Shield Plans Board of Directors. "Medicine's involvement in Blue Shield is more appropriate — more necessary — than ever before," he wrote in the **NABSP 1967-68 Annual Report** recently issued. "We in the medical profession and in Blue Shield are committed to a joint purpose of working together to see that quality health care, in a climate of free choice, is within the pocketbook of the vast majority of the people," Dr. Ackerman said.

BLUE SHIELD ISSUES NATIONAL ID CARD

Blue Shield issues a new National Account Identification Card for members who are employees of large national organizations located in various areas of the country. This new Blue Shield ID card has the words "National Account" printed over a silhouette map of the United States. When the physician provides professional service to a patient covered under the national account system, the claim should be filed with the local Blue Shield Plan. Only the local Blue Shield Plan can determine the proper fee allowances for service performed by physicians in its area.

WELFARE COSTS SOARING

Aid to the poor from all federal agencies this year totals $24.6 billion, according to a report presented to the House of Representatives recently by George Mahon, Democratic chairman of the Committee on Appropriations. In 1963 the amount was $12.5 billion, or about 50 percent less, Mahon said. The budget request for the next fiscal year totals $27.7 billion in federal aid to the poor. Federal outlays for health rose from $4.1 billion in 1961 to $13.9 billion in 1968, he reported.

BLUE SHIELD PLAYS ROLE IN TITLE 19

By 1975, some 25 million Americans under 65 are expected to have some or all of their medical care financed by federal-state funds under the Title 19 program of the Medicare law. Known as Medicaid, the Title 19 program will cover almost twice as many persons as the Title 18 program for the aged. Thirteen Blue Shield Plans are now playing a major role in Title 19.

20 Years Ago ...IN THE JOURNAL

TWENTY YEARS AGO IN THE SOUTH DAKOTA JOURNAL OF MEDICINE AND PHARMACY — October, 1948

Excerpts from the article entitled, "Report of Delegate to 1948 A.M.A. Meeting" by H. Russell Brown, M.D., Delegate to A.M.A.

The 97th Annual Session of the American Medical Association was held in Chicago June 21-25, 1948. Approximately 12,000 fellows were registered and the total attendance of all concerned neared 25,000.

The House of Delegates remained in session for four days with its customary excellent attendance. Dr. Isaac Abt, Chicago pediatrist, was awarded the Distinguished Service Medal. Dr. Ernest Irons of Chicago is the new President Elect. Dr. R. W. Fonts of Omaha was elected Vice-President. Re-elected were George F. Lull, Chicago, Secretary, and J. J. Moore, Chicago, Treasurer. F. F. Borzell, Philadelphia, was named Speaker of the House of Delegates and James Reuling, Bayside, New York, as Vice-Speaker. Three new Trustees were chosen: Walter B. Martin of Norfolk, Virginia, Gunnar Gundersen of La Crosse, Wisconsin, and Edwin S. Hamilton of Kankakee, Illinois. The Interim Session is to be held in St. Louis, November 30 to December 3, 1948. The next Annual Session will be at Atlantic City in 1949.

* * * *

NPC On The Job

Last month three representatives of the South Dakota State Medical Association, namely Doctors C. E. Robbins and J. L. Calene and Executive Secretary John C. Foster attended the NPC meeting in Chicago. Like many other meetings of this sort, this particular one was prone to become repetitious as time went on. However, as one sits through the meetings he becomes more and more impressed with the fact that the NPC is doing a job for the doctors of the country.

Many doctors throughout the country, anticipating a Dewey-Warren election in November, rejoiced in the thought that now the fight for socialized medicine has ended. Nothing could be farther from the truth. Those people who insist upon compulsory health insurance are not only fighting for state medicine but for the way of life and the ideology that they support. It is obvious that those persons favor government at the expense of the people rather than government as a tool of the people.

* * * *

From time to time we hear various members of the South Dakota State Medical Association criticize the efforts of their officers and the activities of the State Medical Association. Perhaps some of the criticism stems from a failure to understand just what the Association is doing for the medical profession. Many of the hours that the officers put on activities of the State Association are never publicized, and therefore, perhaps not appreciated. However, occasionally a welcome word is heard from one of the members who does appreciate his medical association, and in this particular case, it is one individual who benefits least from his membership.

A letter from Dr. H. L. Crane of La Croya, Peru, to the State Association's Secretary reads as follows:

"I hope to pay the old Home Town and the Black Hills a visit again in 1949. I haven't had the pleasure of knowing you yet, but perhaps I will get to visit the Eastern part of the State the next time I do come back for I have many

old friends over there. It makes no difference where I am located in the future I will always continue to keep my membership in my Home District Society and the State Association for I have many friends throughout the profession in the State and I feel I owe my allegiance and loyalty to the South Dakota Medical Fraternity and to no one else."

This indication of allegiance and loyalty is one of the best we have seen in some time. We hope that the other members of the State Association who practice in the State of South Dakota may feel the same way about the Association and the efforts to improve the practice of medicine made by their officers and the State Executive Office.

* * * *

DR. H. W. HOGAN NAMED SUPERINTENDENT

Announcement of the appointment of Dr. Henry W. Hogan as superintendent of the State School and Home for Feebleminded at Redfield was made by Fred Ferguson, Woonsocket, chairman of the Board of Charities and Corrections.

Each Cough Calmer™ contains the same active ingredients as a half-teaspoonful of Robitussin-DM®: Glyceryl guaiacolate, 50 mg.; Dextromethorphan hydrobromide, 7.5 mg.
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A·H·ROBINS

Q. How much does the **anticostive* hematinic** cost?

A. No more than costive hematinics cost!

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Hematinic with Vitamins and Fecal Softener

A tablet-a-day provides:

● Elemental Iron (as Ferrous Fumarate)	100 mg
● Dioctyl Sodium Sulfosuccinate (to counteract constipating effect of iron)	100 mg
Vitamin B_1	7.5 mg
Vitamin B_2	7.5 mg
Vitamin B_6	7.5 mg
Vitamin B_{12}	50 mcgm
Vitamin C	200 mg
Niacinamide	30 mg
Folic Acid	0.05 mg
Pantothenic Acid	15 mg

Bottles of 60

*
anticostive, *adj.* (*anti* opposed to + *costive* causing constipation.) Against constipation. Now isn't that a good idea in an iron-containing hematinic?

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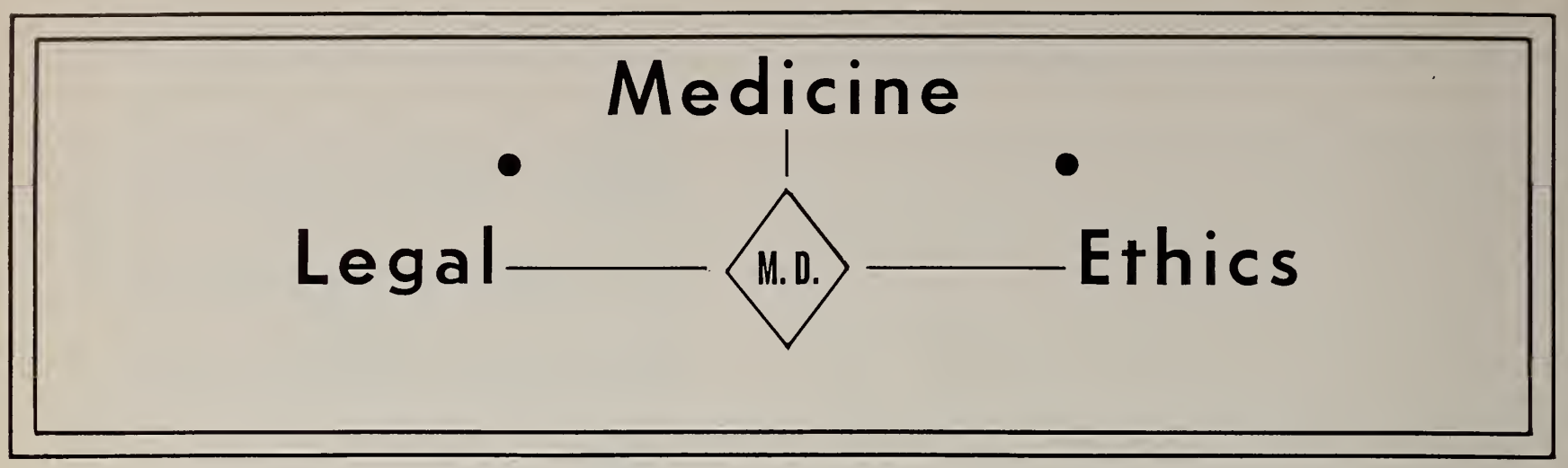
Pearl River, New York 10965

490—7R—6064



INJECTION BY STUDENT NURSE IS PROFESSIONAL SERVICE

A hypodermic injection given by a student nurse at an infirmary is "of a professional nature" and was not covered by a general liability insurance policy, the U. S. Court of Appeals for the Fifth Circuit ruled. In a suit by a patient who had sustained nerve degeneration and loss of control of his right foot as the result of the injection, the trial court properly granted the insurer's motion for summary judgment. A provision of the policy excluded liability for injuries due to medical or surgical services or treatment, or any service of a professional nature.

The patient contended that although the giving of an injection may be "of a professional nature" under some circumstances, it was administrative negligence, as distinguished from professional negligence, for the infirmary to permit the student nurse to give the injection or to administer it in an improper manner. The injection was given in the presence of a surgeon and a supervisor of nurses. Under Louisiana law, the court said, the act itself, and not the title or character of the person performing it, determines whether it is of a professional nature.

* * *

SUBSTITUTION IN OBSTETRIC WORK

When a physician attends a woman who is in labor because the one who was engaged to attend her is absent, the physician summoned in the emergency should relinquish the patient to the first engaged, on his arrival. The one in attendance is entitled to compensation for the professional services he may have rendered.

* * *

Information provided by the Law Department of the American Medical Association, 535 North Dearborn St., Chicago, Illinois 60610.

USE OF MEDICAL EMBLEM ON AUTOMOBILE

Nothing in the Principles of Medical Ethics proscribes the use of a medical emblem by a physician on his automobile. It may be noted that it has long been the custom of the Association to provide for its members at cost, registered medical automobile insignia.

* * *

PHYSICIAN'S DELAY IN SUING FOR FEES LIMITS AMOUNT RECOVERED

A physician suing a patient for fees was entitled to recover only the amount which was for services rendered within four years of the date of filing suit, a Georgia intermediate appellate court ruled. The remainder of the account was barred by the 4-year contract statute of limitations.

The account covered fees for services rendered from October 28, 1959, to November 7, 1963. The physician contended that his claim arose out of an entire contract for continuous labor and services and that the statute of limitations did not begin to run until the physician-patient relationship was terminated.

The criterion for determining whether a contract is entire or severable is whether the whole quantity, service, or thing is of the essence of the contract. If the contract was to take the whole or none, the contract would be entire. There was no evidence of a contract under which the physician was to furnish treatment to the patient for any fixed period of time or for any definite amount of compensation or terms of payment. There was no implication of an arrangement between the physician and the patient that could be considered an entire contract. Rights of action accrued to the physician and the statute of limitations began to run as services were rendered and charges were made from time to time on the account.

"ADVERTISING" DETERMINED BY FACTOR IN EACH CASE

There was submitted to the Council an inquiry as to whether a given advertisement of a certain medical institution, which the institution desired to run in the public press, was ethical or unethical, and if not ethical, wherein specifically it was unethical. The answer to this question cannot be based solely on the wording of the advertisement. It is perfectly evident that an advertisement which would be proper under one set of conditions might be highly improper under a different set.

MORE DENTAL HYGIENISTS

Nearly twice the number of dental hygienists were enrolled in classes during the 1967 academic year than in 1960, according to the American Dental Association. ADA says 4,309 undergraduates were enrolled in 1967 as compared with 2,479 in 1960.

WE HOPE THIS IS NOT NEEDED

- - - but your patient will find new freedom from the extra comfort and smooth, easy operation of this marvelous Everest & Jennings wheelchair. Elmen Rent All offers you just about everything to help patients get well faster. The first month's rent applies to the purchase price. We hope your patients never need such things, but if they do, we're at your service 24 hours a day.

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Dilantin®
(diphenylhydantoin)

PARKE-DAVIS

In untold thousands of epileptic patients... Dilantin has been, and continues to be, the bedrock of therapy.

DILANTIN is useful in the treatment of grand mal epilepsy and certain other convulsive states. Its use will prevent or greatly reduce the incidence and severity of convulsive seizures in a substantial percentage of epileptic patients, without the hypnotic and narcotizing effects of many anticonvulsant drugs.
PRECAUTIONS: Periodic examination of the blood is advisable. Nystagmus in combination with diplopia and ataxia indicates dosage should be reduced. The possibility of toxic effects during pregnancy has not been explored. ADVERSE REACTIONS: Allergic phenomena such as polyarthropathy, fever, skin eruptions, and acute generalized morbilliform eruptions with or without fever. Rarely, dermatitis goes on to exfoliation with hepatitis, and further dosage is contraindicated. Gingival hypertrophy, hirsutism, and excessive motor activity are occasionally encountered. During initial treatment, side effects may include gastric distress, nausea, weight loss, nervousness, sleeplessness, feeling of unsteadiness. Macrocytosis, megaloblastic anemia, leukopenia, granulocytopenia, thrombocytopenia, pancytopenia, agranulocytosis, and aplastic anemia have been reported. Nystagmus, lymphadenopathy, lupus erythematosus, erythema multiforme (Stevens-Johnson syndrome), and a syndrome resembling infectious mononucleosis with jaundice have occurred.
DILANTIN is supplied in several forms including Kapseals® containing 0.1 Gm. and 0.03 Gm. diphenylhydantoin sodium.
Parke, Davis & Company, Detroit, Michigan 48232

The color combinations of the banded capsules are Parke-Davis trademarks. The orange-banded white capsule identifies Parke-Davis 0.1 Gm. diphenylhydantoin sodium; the pink-banded white capsule 0.03 Gm. diphenylhydantoin sodium.

PARKE-DAVIS 015R67

THE MONTH IN WASHINGTON

President Johnson designated the Secretary of Health, Education and Welfare, Wilbur J. Cohen, as the chief federal official for health policies and programs.

An HEW reorganization plan, recommended by Cohen and approved by Mr. Johnson, makes the secretary:

1) The President's chief adviser on federal health policy and programs.

2) Responsible for coordinating all federal health programs.

3) Head of a new Federal Interdepartmental Health Policy Council.

The reorganization also included creation of a Consumer Protection and Environmental Health Service as a unit of the Public Health Service and transfer of the Division of Regional Medical Programs from the National Institutes of Health to the Health Services and Mental Health Administration.

Mr. Johnson also agreed to renew a request to Congress to raise the status of HEW's principal health official, now Dr. Philip R. Lee, from assistant secretary to Under Secretary for Health and Science.

The new consumer and environmental health unit consists of:

—The Food and Drug Administration;

—The National Center for Air Pollution Control;

—The National Center for Radiological Health;

—The National Center for Urban and Industrial Health;

—Certain staff units of the Office of the Director, Bureau of Disease Prevention and Environmental Control.

Charles C. Johnson, Jr., a Negro and Assistant Commissioner for Health for Environmental Health in New York City, was named to head the new unit. An engineer, he had been on leave from the Public Health Service and his new post makes him the highest ranking Negro member in the history of PHS.

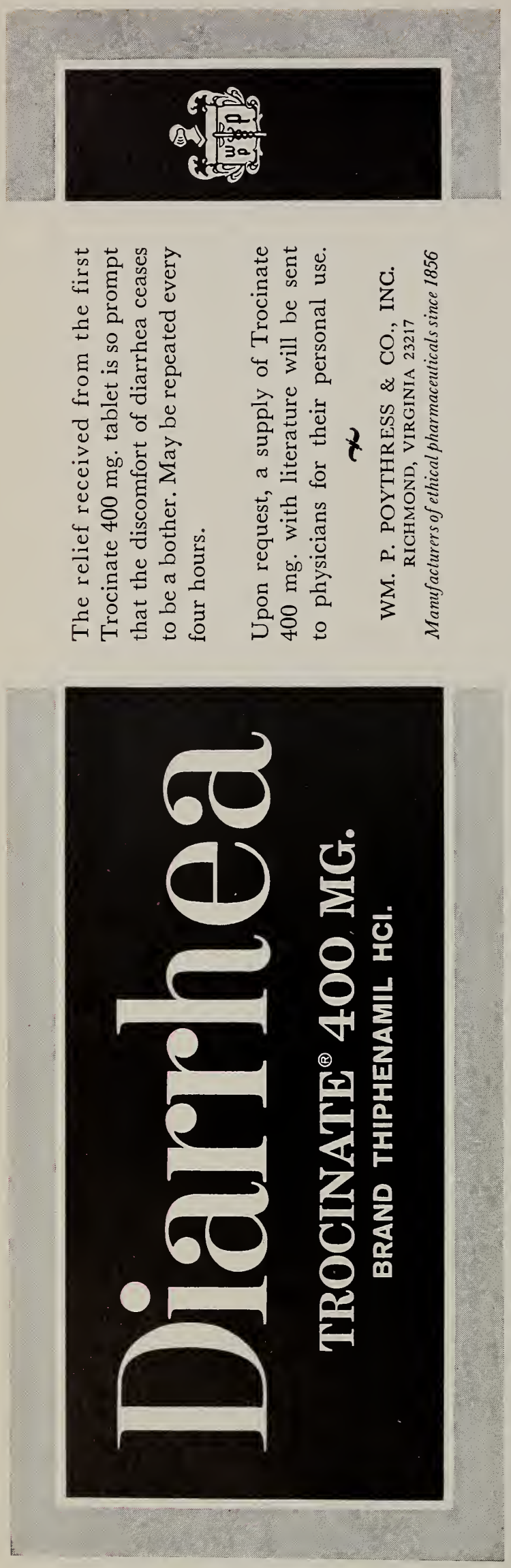
Dr. Herbert L. Ley, Jr., who had been director of the FDA's Bureau of Medicine since the fall of 1966, was appointed to succeed Dr. James L. Goddard who recently resigned as Commissioner of Food and Drugs. Dr. Ley, 44, had been recommended by Goddard and also had the support of a number of Senate and House members on committees concerned with FDA. A 1946 graduate of the Harvard Medical School, Dr. Ley had been on the faculty at his alma mater and the George Washington University School of Medicine earlier in his career. He also had served as chief of medical branches of the Army research office and the office of the Army Surgeon General.

The interdepartmental health policy council will oversee all federal activities in the health field, such as the drafting of physicians for service with the armed forces, Veterans Administration hospitals and Office of Economic Opportunity health projects.

Cohen said that there had been no way in the past for the HEW secretary to give guidance in such matters. He said there must be a reexamination of the drafting of physicians to provide care in the United States for civilian dependents of military personnel.

"This allocation of a portion of the critically scarce physician pool materially affects programs intended to make health care as widely available as possible, a national health goal that goes far beyond the mission of the Department of Defense," Cohen said.

As medicare went into its third year, Cohen announced the appointment of a 12-member advisory council to study the possible extension of the program to disabled persons under age 65.



The relief received from the first Trocinate 400 mg. tablet is so prompt that the discomfort of diarrhea ceases to be a bother. May be repeated every four hours.

Upon request, a supply of Trocinate 400 mg. with literature will be sent to physicians for their personal use.

WM. P. POYTHRESS & CO., INC.
RICHMOND, VIRGINIA 23217
Manufacturers of ethical pharmaceuticals since 1856

Congress last year turned down the Administration's request for such an extension but authorized creation of the council to study the matter.

In discussing medicare, Cohen said rising health care costs had made financing of the program a serious problem. He said new financing, presumably a tax increase, may be required if costs continue to rise.

"Physicians must act with restraint on fees or people will ask government to put on controls," he said. "I would not like to see that."

Dr. Henry H. Kessler, director of the Kessler Institute for Rehabilitation in Newark, N. J., was named chairman of the advisory council. Other members are:

Dr. Morris Brand, medical director of the Sidney Hillman Health Center; James Brindle, president of the Health Insurance Plan of Greater New York; James M. Gillen, director of personnel research of General Motors; Juanita Kreps, associate professor of economics at Duke University; Dr. Leonard W. Larson, past president of the American Medical Assn.; Daniel W. Pattengill, vice president of Aetna Life and Casualty Co.; Bert Seidman, director of the AFL-CIO social security department; E. A. Vaughn, vice president of the Aluminum Co. of America; Anthony G. Weinlein, executive assistant to the president of the AFL-CIO Building Service Employes; E. B. Whitten, executive Director of the National Rehabilitation Assn., and Dr. Alonzo S. Yerby, professor at Harvard's School of Public Health.

* * *

The American Medical Association told Congress it supported most provisions of the Administration's health manpower bill as essential to increasing enrollment in the nation's medical schools.

The AMA position was outlined by Dr. William A. Sodeman of the AMA's Council on Medical Education in testimony before the House Public Health and Welfare Subcommittee. He noted that a recent joint statement of the AMA and the Association of American Medical Colleges that more funds from both government and private sources would be needed by medical schools if they were to expand enrollment.

"The bill (H.R. 15757) before the subcommittee provides a means of furnishing the Federal component of the necessary financial resources," Dr. Sodeman said.

In other testimony, the AMA supported the overall objectives of the Administration's occupational health bill. But the Association opposed

a provision that would authorize establishment and enforcement of mandatory national standards for health and safety.

Dr. R. Lomax Wells, chairman of the AMA's Council on Occupational Health, told a Senate Labor Subcommittee, that the objectives of the bill (S. 2864) could "best be accomplished through the research, education and training provisions and through grants to states to enable them to undertake and conduct more effective programs in both occupational health and safety."

Urging rejection of the mandatory standards provision, Dr. Wells said that this authority has been "properly vested in the states where the standards and the enforcement can be adapted to their particular geographical and industrial conditions."

* * *

The U. S. Supreme Court refused, by a 5-4 division, to lay down a constitutional rule against punishing chronic alcoholics for being drunk in public.

In an opinion by Justice Thurgood Marshall, four members of the Court said that neither the facts of the test case nor "the comparatively primitive state" of scientific knowledge on the subject justifies such a decision at present.

The vote of the four, plus Justice Byron R. White, who concurred separately, upheld the conviction of Leroy Powell, 67, who was fined $50 in a Travis County, Tex., court for being drunk in public.

The argument for Powell was that alcoholism is a disease and the person suffering from it should be treated rather than punished.

Two AMA authorities on alcoholism expressed surprise and disappointment at the court's decision. Dr. Marvin Block of Buffalo, N. Y., a member and former chairman of the AMA's Committee on Alcoholism and Drug Abuse, and Dr. Dana L. Farnsworth of Harvard University, chairman of the AMA Council on Mental Health took issue with the court opinion that "we are unable to conclude . . . that chronic alcoholics in general . . . suffer from such an irresistible compulsion to drink and get drunk in public that they are utterly unable to control their performance . . ."

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Volunteer Physicians For Viet Nam

Status Report: July 1, 1968*

At the close of FY 1968, 483 physicians had served 60-day service tours under this voluntary program. Actually, 450 individuals participated; 25 of these served two tours, and four returned to serve three tours each. Over a three-year period, these physicians contributed more than 80 man-years of voluntary service. In effect, an average of 30 physicians has been maintained in Viet Nam at all times since the American Medical Association became responsible for this program in the summer of 1966; an average of 35.0 for the past six months.

These U. S. licensed physicians were recruited from 49 states, the District of Columbia, the Canal Zone and from seven overseas areas. It has been estimated that one out of every 650 U. S. licensed physicians has participated in this program. Fourteen female physicians have participated; two of these have served extended tours. Twelve former volunteers (2.7% of total) have subsequently returned to Viet Nam as long-term employees supporting the USAID medical mission. Two former volunteers are now preparing to return to Viet Nam as medical missionaries.

500 Volunteers in Three Years

The first participant in this program, Doctor Richard E. Perry, an orthopedic surgeon from Saint Petersburg, arrived in Saigon on August 16, 1965. The 500th volunteer to participate in this program will be among the group scheduled to arrive in Viet Nam August 12, 1968. Doctor Philip A. Pritel will be returning to Viet Nam for his third tour in August; he will be the fifth volunteer to serve three tours under this program. It is anticipated that a minimum of 16 volunteers will return for second or third tours during the coming year.

New Field Director — Procurement Objectives

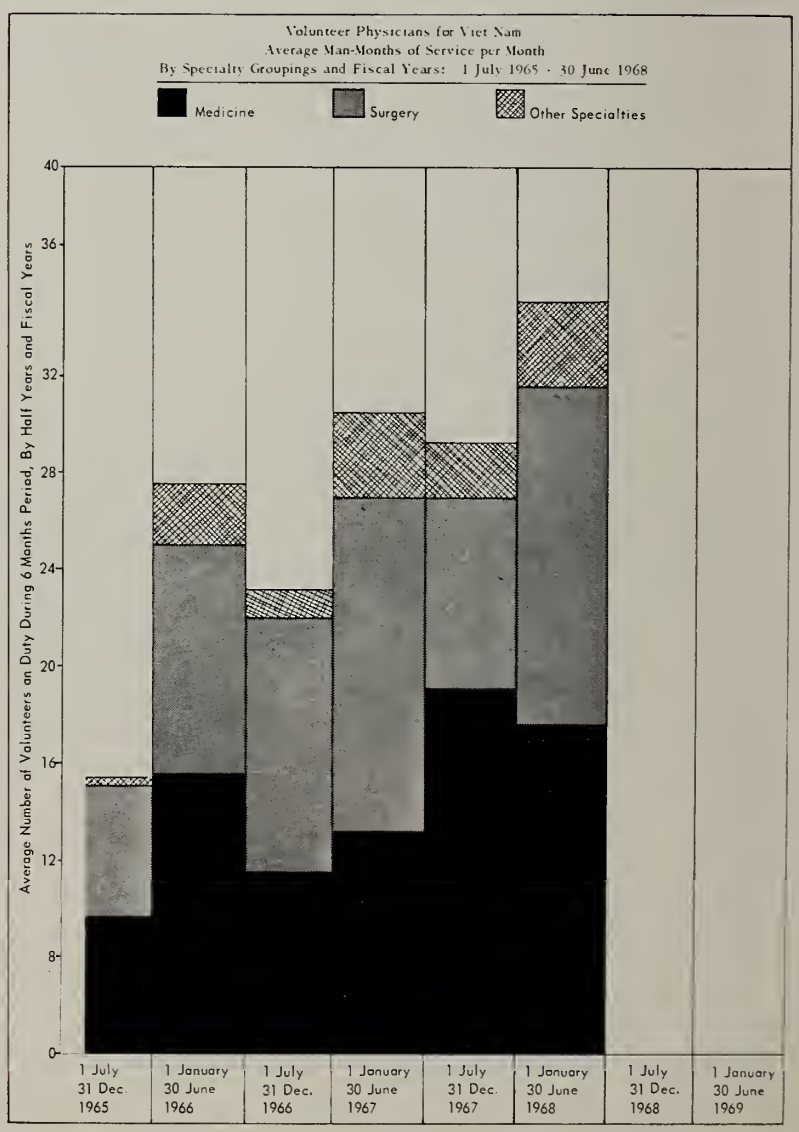
Hal T. Wilson, M.D. from San Bernardino, departed in June to become the new Field Director of the VP/VN program in Saigon. He replaces Doctor Lawrence A. Smookler who has returned to private practice in San Francisco.

Thirty-two physicians are needed every 60 days to maintain this program. Most needed are general practitioners, internists, pediatricians and general surgeons, with an immediate demand for **orthopedic surgeons** and **ophthalmologists.**

AMA VOLUNTEER PHYSICIANS FOR VIET NAM
STATES REPRESENTED BY DEPARTING PHYSICIAN VOLUNTEERS
JULY 1, 1965 - JUNE 30, 1968

State or Area	*FY 66	*FY 67	*FY 68	Total (3 Yrs.)		*FY 66	*FY 67	*FY 68	Total (3 Yrs.)
Alabama	0	0	2	2	New Hampshire	1	1	2	4
Alaska	0	1	0	1	New Jersey	2	0	4	6
Arizona	2	1	1	4	New Mexico	2	5	0	7
Arkansas	0	1	1	2	New York	7	17	13	37
California	16	23	29	68	N. Carolina	3	6	1	10
Colorado	4	5	5	14	N. Dakota	1	0	1	2
Connecticut	2	1	1	4	Ohio	7	8	9	24
Delaware	0	0	1	1	Oklahoma	3	3	4	10
Florida	3	4	4	11	Oregon	3	4	2	9
Georgia	1	4	2	7	Pennsylvania	3	4	10	17
Hawaii	0	1	3	4	Rhode Island	0	0	0	0
Idaho	3	0	1	4	S. Carolina	1	11	2	14
Illinois	2	4	6	12	S. Dakota	1	2	1	4
Indiana	6	5	5	16	Tennessee	1	3	2	6
Iowa	0	2	5	7	Texas	11	8	5	24
Kansas	2	3	3	8	Utah	2	1	1	4
Kentucky	1	1	0	2	Vermont	1	0	0	1
Louisiana	3	1	2	6	Virginia	1	1	1	3
Maine	0	1	0	1	Washington	6	8	8	22
Maryland	2	2	6	10	W. Virginia	1	1	1	3
Massachusetts	2	5	7	14	Wisconsin	0	7	5	12
Michigan	3	2	13	18	Wyoming	0	3	2	5
Minnesota	4	2	8	14	D.C.	3	1	2	6
Mississippi	0	0	1	1	Canal Zone	1	1	0	2
Missouri	2	1	3	6	Others	0	4	3	7
Montana	1	1	2	4					
Nebraska	0	1	0	1	TOTAL FY 66	120			120
					TOTAL FY 67		173		173
Nevada	0	2	0	2	TOTAL FY 68			190	190
					TOTAL 3 Yrs				483

*FY 66: July 1, 1965 through June 30, 1966
FY 67: July 1, 1966 through June 30, 1967
FY 68: July 1, 1967 through June 30, 1968



* American Medical Association

FEDERAL SUPPORT OF MEDICAL RESEARCH IN SOUTH DAKOTA

—A Program of Poverty—

Dr. Otto W. Neuhaus*

This age of unprecedented advances in the medical sciences has created understandable changes in teaching biochemistry to Medical Students. Each year, I am impressed more and more with how little the biochemistry of today resembles that which many of us studied. The rapid gains in medical science make textbooks obsolete in two years and adequate laboratory manuals are almost non-existent. Today, medical students are exposed extensively to many new concepts in biochemistry and related fields. In the laboratory scintillation counters, spectrophotometers, and gas chromatographs have replaced the Duboscq colorimeters remembered by many physicians from their medical school days. This constant change is a continuous challenge to the staff of any Biochemistry Department worth its salt.

What kind of staff is needed to give a contemporary and well rounded course to medical students? Obviously, it requires a faculty of diverse background and experience; but even more so, individuals able to keep up with the significant advances. Experience teaches us that a faculty actively engaged in scientific investigation is best qualified to do this. How can a dual role of excellence in teaching and a research commitment be achieved? This is done with a research and teaching program for graduate students at the Ph.D. level. Graduate research and the teaching of advanced biochemistry must be the very soul of a department capable of presenting a progressive, yet fundamental course to medical students. Research is an expensive investment; the most sophisticated equipment and supplies are essential. It is one thing to say that we should have a high quality research program and quite another to obtain the necessary funds. Who pays the bill?

Of the various funding agencies aiding medical research, the National Institutes of Health of the U. S. Public Health Service is the most important single resource for financial support. In the annual report of the USPHS for the Fiscal Year 1967 the following information is available concerning the funding of research in South Dakota and neighboring states.

South Dakota	$ 299,837
(University of South Dakota has 18 grants totalling $277,896 of which 14 are in your Medical School)	
North Dakota	$ 392,059
Minnesota	$15,983,144
Iowa	$ 7,270,107
Nebraska	$ 2,604,289
Colorado	$ 9,027,412
Wyoming	$ 505,101
Montana	$ 728,111

South Dakota is at the bottom; it is awarded the **least** USPHS research funds of any state in the Union! As a matter of fact, prosperous, developed countries such as Sweden receive

* Professor and Chairman, Dept. of Biochemistry, U. of S. D., Vermillion, S. D. 57069.

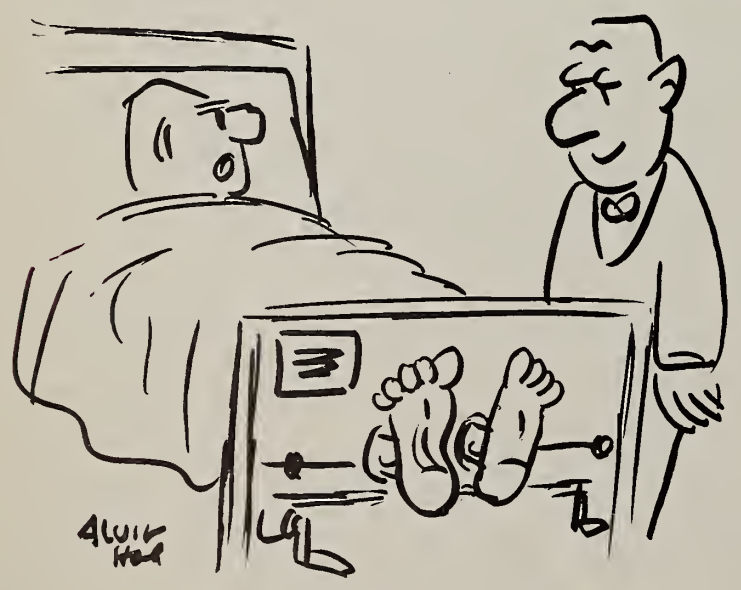
$964,141; Italy, $322,707; France, $363,211; Australia, $422,777; and little Switzerland, $316,-973.

One often quoted advantage of being last is "there's only one way to go — up!" But unfortunately for us, for you, for future medical students in South Dakota, our University and Medical School as well as for the whole state, this is not true. There is another way to go — out! Now, all grant renewals are being reconsidered or not being considered at all. We are being told to reevaluate our budgets and make reductions. How can you cut a budget when you are already at the bottom? We cannot afford to lower our sights when we should be raising them.

In two years our staff has doubled and the number of graduate students tripled. The equipment, supplies, and financial support for these students is derived exclusively from grants obtained by individual staff members. Without these funds we will have little to work with and our graduate program will be doomed. Failure of this program will mean discouragement and a loss of staff to greener pastures. This can only lead to an inadequate department for the teaching of medical students.

What can we do? Only you and I know what it takes to teach medical students. If we don't write our senators and congressmen, then nobody will. We will fight for our budgets but we will also need your voice in Washington, now!

Otto W. Neuhaus
Professor and Chairman
Department of Biochemistry
University of South Dakota



"I DON'T LIKE THE WAY THEY KEEP YOU IN BED, HERE!"

REPORT OF THE BOARD OF TRUSTEES

AMA Posture on Public Comment

The American Medical Association's House of Delegates, meeting in San Francisco, June 16-20, 1968, adopted Report C of the Board of Trustees on "AMA Posture on Public Comment."

The House recommended that the report be published in the journals of all constituent state medical associations.

The Board is cognizant of the great increase in attention being given in the press and broadcast media to medicine and health care. Our profession is now the focus of one of America's greatest interests. It will constantly be in the spotlight, ending the professional reticence and privacy in which medicine functioned most of the time in the past.

Even though this interest is a tribute to the importance of medicine and the public's desire for its benefits, it brings with it the problems facing any person or organization with a key public position: much of the coverage is critical or displays a lack of understanding.

The Board of Trustees has consulted with AMA staff and public relations counsel on this increasingly important situation. The conclusions that have resulted from this intensive and thoughtful consideration are submitted now:

1. When statements about medicine are misguided or unfair, corrective statements will be issued promptly when the facts are available and an orderly response is possible.

2. We must recognize that the prominence and complexity of medicine in the United States today result in many limitations. Medicine is a constant subject of news and comment, much of which cannot be subject to a later response. Often our replies cannot be carried by the broadcast medium or publication, or at best will be much less prominent than the original coverage. Quite often a responsible statement cannot be issued until the facts have been obtained, and these may be scattered about the country or involve a local situation or require a great deal of time.

3. The frequency and complexity of these matters have increasingly diverted the officers and staff of AMA to reacting to what others do and say. This decreases the ability to work on constructive, ongoing activities that are vital to our future.

4. Staff is developing in written form the best possible anticipatory statements regarding all foreseeable circumstances. By having such matters thought out and documented when a need arises, we will be able to reduce the instances of surprise, decrease the time required for response, and assure consistency in AMA statements on these matters.

5. We will concentrate on building a positive posture by getting understanding for medicine's functions and its positions on various considerations; and by educating the press, broadcasters and opinion leaders. This will help forestall much misguided criticism and build a favorable climate that will inoculate against susceptibility to unfair criticism.

6. All state and county medical societies are urged to follow these same procedures.

You will see many instances in which AMA responds to public comment, many in which we have acted but our effectiveness will be in correcting the source and may not be visible immediately, and instances when judgment indicates a response should not be made. In each case the best judgment and skills will have been applied to the complexities of the situation.

In A Nutshell: Immunoglobulins

E. H. Heinrichs, M.D.

Antibody activity has long been related to the gammaglobulin fraction of the serum. In 1952 for the first time a clinical entity was attached causatively to an abnormality of this serum component: Bruton[1] described the agammaglobulinemia in his now classical paper. Since, many primary and secondary Immunologic Deficiency Diseases have been reported and associated to several levels and modes of defect. The multiplicity of their names and the letters of abbreviation for these serum components have not helped in becoming familiar throughout medical circles.

In 1964, at a meeting of the World Health Organization in Prague, it was proposed to designate the immunoglobulins with the letter Ig and since, five separate proteins have been identified: IgG, IgM, IgA, IgE, and IgD.[2]

The immunoglobulins (Ig) are moving in the electrophoretic pattern in the area which has previously been designated as alpha-2-, beta- and gammaglobulin. In vivo they are about equally distributed in the blood plasma and the extravascular fluid. The healthy adult produces daily about 2-5 grams of these, under pathologic conditions this can be increased up to seven fold. Plasma cells and their precursors as well as lymphocytes are considered the main sites of Ig-production. The newborn infant has no Ig on his own, but has some passively transferred IgG.

IgG comprises about 85% of all Ig in the adult under normal conditions. It neutralizes toxins and viruses and is the only one which is actively transported across the placenta barrier in appreciable amounts, if there was no intrauterine disease process. The normal adult level in an infant at birth reaches a low point at about 3 months of life and rises slowly to reach adult levels again between 8 - 16 years. Its biological half-life is 20 days.

IgM is mainly in the intravascular component because it has the highest molecular weight of all Ig, its biological half-life is very short (5 days) and it is synthesized very early in the neonatal period. Following an antigenic stimulation, it is the first Ig to appear in the circulation. It contains antibodies to the somatic antigen of gram-negative bacteria and also the heterophile antibodies, isohemagglutinins, cold agglutinins and the rheumatoid factor. It is produced very rapidly in the first year of life and reaches adult levels between the first and the second year of life. Elevated IgM levels in the cord blood indicate in about one-third of these children unrecognized intrauterine diseases as toxoplasmosis, rubella, or congenital syphilis, etc.

IgA is unique inasmuch as it is actively secreted in a slightly altered form into other body fluids (tears, saliva, respiratory and alimentary tract secretions). Adult levels are reached after 12 years of life, but always later than IgG.

IgE is present in very minute quantities (: less than 0.5%) and appears to play a role in the immediate hypersensitivity reaction (reagin).

IgD has only recently been discovered and its role has not yet been clarified.

A number of disease entities have been associated with specific alterations of the Ig components. However, here is not the place to be complete in describing all known pathological syndromes. In case of need one has to be referred to the appropriate texts.[3] But a few important practical points should be mentioned:

Hypergammaglobulinemias are divided into two groups, depending on the finding of only one or more than one Ig being involved in the increase.

Increase in only one Ig is present in myelomas (increased IgG or IgA), Waldenstroms Macroglobulinemia (increased IgM) and essential benign hypergammaglobulinemia. The other Ig are concomitantly moderately decreased.

More than one Ig are increased in viral diseases (lymphogranuloma, mononucleosis, chronic hepatitis), chronic bacterial diseases, chronic fungal and protozoal diseases, and autoimmune diseases (LE, rheumatoid disease, Hashimoto's thyroiditis, acquired hemolytic anemia, etc.).

Agammaglobulinemias, i.e. absence of all Ig are found in patients who exhibit a failure of development in the cells of the immune system such as lymphoid aplasia (Bursa-dependent System). Many types are known now: Agammaglobulinemia of the Bruton, Swiss, Matsonoides, or Herman type. Disturbances of the system at different levels result in a quantitative decrease of all or some Ig: hypogammaglobulinemias of the Gitlin, Breton - Gitlin - Fireman type, or in ataxia-teleangiectasia. All these conditions are associated with an increased susceptibility to infections. In view of the fact that young children have lower and age dependent levels of IgG, IgM and IgA and to prevent indiscriminate use of gammaglobulin, one has to acquaint himself with the normal levels for different age groups.[4]

Selective deficiencies are also known, for example, reduced IgA and IgM with normal IgG, or reduced IgA and IgG with normal or increased IgM. These conditions are found in a good number of children who show an increased susceptibility for infection without having low gammaglobulin values in an electrophoretic pattern. Deficiencies of IgA have been reported in normal persons and those with ataxia-teleangiectasia.[5]

If certain viral infections afflict a patient one will note initially a high IgM level (primary immune response) which subsequently in the convalescent phase is replaced by an IgG increase (secondary immune response). Such is known from measles, mumps, coxsackie B4 and B5, etc.

The Ig have proven to be quite useful in the differential diagnosis of jaundice (hepatitis vs. obstruction). In 75 - 90% of these patients, a clear distinction is possible since obstruction does not, but hepatitis does increase the Ig. The remainder of the patients have usually combinations of obstruction with secondary infection. However, hepatitis usually increases all Ig - components, gram - negative infections only IgM.

An abnormal gammaglobulin has been detected in a few patients which resembles IgG, but has a "heavy chain" in its protein. These patients exhibit symptoms and signs which are similar in certain aspects to the multiple myeloma.[6, 7]

Immunoglobulin determinations, even though not free of problems technically yet, have become a necessity in the practice of pediatrics, the chronic diseases and especially the diagnosis of myelomas and autoimmune diseases. These are the areas where one has to concern himself with the immunoglobulin deficiency syndrome and the immunoglobulin excess. The value of immunoglobulin determinations in the modern hospital practice cannot be denied anymore.

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MEDICAL SELF-HELP

During 1967, 1,894,183 Americans were graduated from medical self-help classes. Developed by the Office of Civil Defense and the U. S. Public Health Service, the course provides instruction on caring for the injured and sick in a disaster when no doctor is present. Since the program started, nearly five million people have been trained.

This is your
MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

Many are too busy to enjoy the FREE things of life.

Richard Thornton, M.D. has joined the Yankton Clinic as a specialist in obstetrics and gynecology.

* * *

At a meeting of the Brookings Rotarians **Saul Friefeld, M.D.** described his recent trip to five countries behind the Iron Curtain.

* * *

Louis Karlen, M.D. has relocated in De Smet giving this community the services of two physicians.

* * *

A regional scientific meeting of the American College of Physicians was held in Rapid City under the general direction of **T. H. Sattler, M.D.,** Yankton, ACP governor for South Dakota. Chairman of the Program Committee was **E. T. Ruud, M.D.,** Rapid City.

* * *

The Bridgewater Clinic has announced the association of **L. L. Waltner, M.D.** with that group which serves both Freeman and Bridgewater.

* * *

Abner Willen, M.D., Clark, reviewed the problems connected with the abuse of narcotics, stimulants, LSD, sedatives and Marijuana at a meeting of the Clark Rotary Club.

Earl Nelson, M.D. has left Lake Andes and located in Viborg.

* * *

The Yankton Rotary Club saw slides shown by **Brooks Ranney, M.D.** of his trip to Australia, New Zealand and other far east countries.

* * *

Members of the Yankton Clinic have donated $12,000 to support a four-year graduate fellowship in anatomy at the School of Medicine in Vermillion.

* * *

The 7th District Medical Society began their fall meetings with the visitation of **Dr. John Elston,** President of the State Medical Association. Sixty members attended the meeting in Sioux Falls.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

M. B. Lyso, M.D., Yankton, was commencement speaker for graduates of Sacred Heart Hospital Schools.

* * *

John H. Davis, M.D., Belle Fourche, was selected to represent the South Dakota Wing of Civil Air Patrol at the Southeast Region Air Force Medical Conference in Miami, Florida.

* * *

The Donahoe Clinic, Sioux Falls, has announced the association of **Guy Tam, M.D.** Dr. Tam will also assist at the clinic in Lennox on a part time basis.

* * *

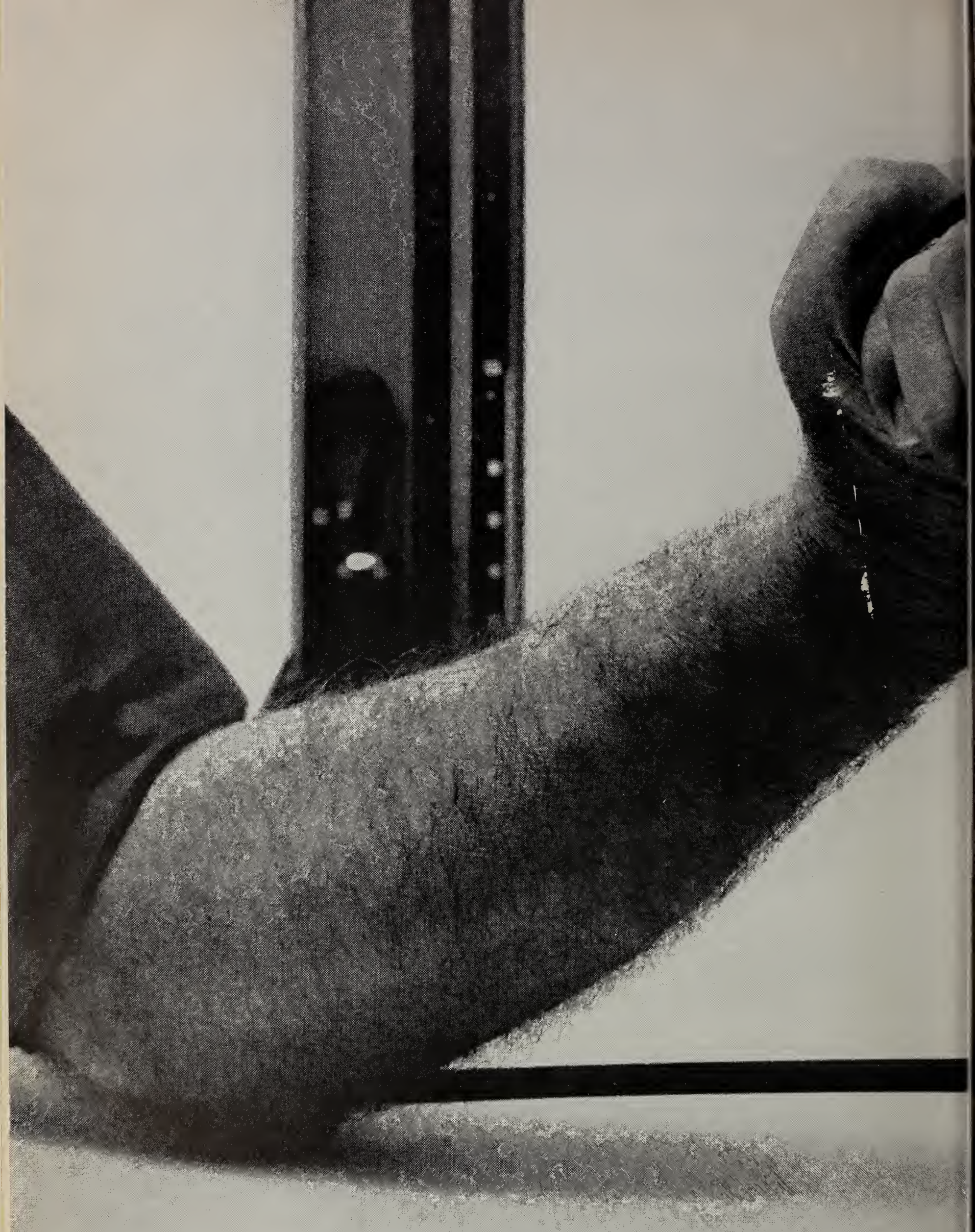
James Monfore, M.D., formerly of Winner has moved his practice to Miller where he will be associated with the Miller Clinic.

* * *

The University of South Dakota has announced the appointment of **Karl Wegner, M.D.** as professor and chairman of the Department of Pathology.

* * *

Bill Church, M.D., Sioux Falls, announced the formation of a "Professions for Archie" club to support and work for the election of Archie Gubbrud, Republican senatorial candidate. **H. Russell Brown, M.D.,** Watertown, represents the medical profession and **Mrs. C. R. Stoltz,** Watertown, represents the medical auxiliary.



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THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION

Organized 1882 — 711 North Lake Avenue
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4. J. J. Stransky, M.D. (1973)
5. R. H. Hayes, M.D. (1969)

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No appointments — Committee consists of president, vice president, president-elect, secretary-treasurer, chairman of the Council, and speaker of the house of delegates.

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11. D. L. Scheller, M.D. ('69)
12. C. C. Lardinois, M.D. ('71)

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9. Dagfinn Lie, M.D. ('71)
10. Ted Hohm, M.D. ('71)
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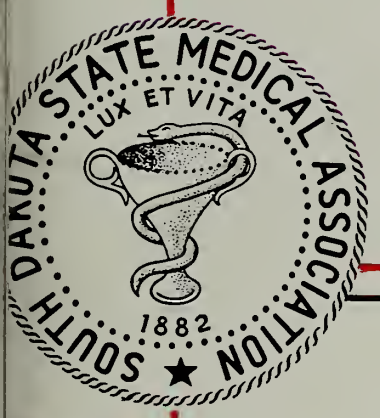

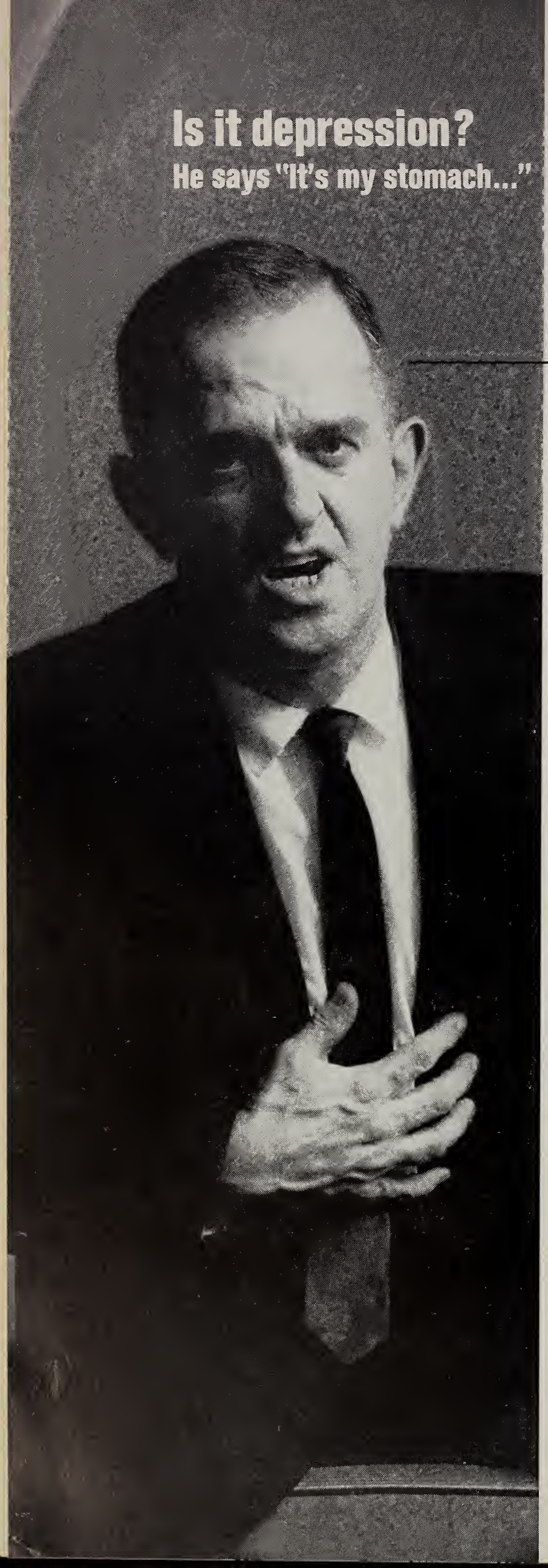

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DISTURBANCES IN VISION AND HEARING ARE MEDICAL PROBLEMS!!!

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Ten years ago an article published in this journal encouraging the physicians of South Dakota to familiarize themselves with hearing problems and audiometry was introduced, "Doctor, look to your patient's hearing. If you don't, someone else will."[1] The discussion centered around the fact that the hearing aid dealers, audiologists, speech therapists, and others, had entered the field of hearing analysis and were often deterring many basically medical problems from the office of the family physician. It was emphasized that **all hearing problems** should be screened medically **prior** to any other treatment.

Testing for visual acuity is done during routine examinations of some children in school and in the physician's office, and in physical examinations of some adults. However, critical appraisal for refractive error, muscle imbalance, and other pathology of the eyes is usually lacking. This lack is most acute in the evaluation of pre-school children. Unfortunately, due to apathy upon the part of the medical profession, screening of many pre-school children and others has been taken over and is in many areas controlled by individuals and organizations whose background and training may be less than optimum. In some instances the testing is done wholly by optometrists who are licensed in the state and able to detect refractive errors and muscle imbalance, but not to treat eye pathology.

The discussions to follow are the observations and recommendations of the Ophthalmologist and the Otolaryngologist relating to the present status of vision and hearing testing and treatment.

OPHTHALMOLOGIST'S COMMENTS

Preventive Ophthalmology is upon us. There are several fields of endeavor which are being explored and developed in other states and which should be considered. Two of the most urgent of these are: 1) **Glaucoma screening programs.** For several years a display has been presented to the public in a small way at the South Dakota State Fair. Its scope is limited to people who attend the fair, but its impact has been quite favorable on the limited portion of the general population to which it is exposed. 2) **Pre-school Vision Checks.** These should include **all children** between ages 3½ and 5 years. One out of 350 school children has ocular defects which if diagnosed and treated early in life can often be remedied tremendously by modern concepts of Ophthalmology. The Medical Association of our neighboring state, Minnesota, has instituted a fine program combining the hearing and visual screening of the pre-school youngsters, utilizing the services of trained volunteers for the actual testing. Children found with abnormalities in either hearing or vision are **referred immediately to their family physician for further evaluation and treatment.** The

program which has been developed in Minnesota,[2, 3, 4] has received nationwide recognition as the result of articles which appeared in the Parent's Magazine (Feb., 1968) and Reader's Digest (March, 1968). There is now much interest by lay and medical people in South Dakota directed toward the establishment of a similar program here. If the S.D.S.M.A. doesn't do it, someone else surely will. It behooves us to look at the excellent methods developed by the Minnesotans with the idea of adopting those which might benefit this State.

Under the Minnesota plan, hearing and vision are tested by specially trained, non-professional people; using the facilities of state-wide organizations such as the Auxiliaries of the American Legion and Veterans of Foreign Wars, the Lions or other civic clubs. (See figures ♯1, 2, 3). The volunteers are trained by para-medical personnel in simple methods for the evaluation of visual acuity, external ocular disease, and ocular deviations; and in a simple method for screen hearing testing. The procedures are not complicated and can be handled adequately and successfully by non-professional volunteers.

Figure ♯1.

Testing vision as is done in the Minnesota pre-school test using a block with various sizes "E" printed upon its sides. The block letters vary from 20/200 to 20/20 size type. Testing is done at 20 ft. by having the child indicate the direction which the arms of the "E" point. Note that the volunteer is occluding one eye.

The second badly needed program is a glaucoma detection test done either by a mobile unit such as that employed in Iowa, or in regularly scheduled clinics each year, similar to those conducted by the Crippled Children's Division of the State Health Department. These clinics could be run by non-professionals who have received instruction and training in the mechanical methods of doing tonometry, using specially designed equipment. A medical doctor should be on hand to supervise this clinic. All persons having suspicious findings would be referred to their Family Doctor. It is also likely that many service organizations would help in setting up

Figure ♯2.

Illustration showing occlusion of one eye for distance vision testing. The cover test to check for squint is done in much the same fashion by having the volunteer stand in front of the testee and move the occluder from one eye to the other rapidly while having the child fixate upon an object, looking for deviation of the eyes.

Figure ♯3.

Hearing testing using the special tape recorded voice upon which the child is asked to point to the picture of some familiar object. The volume of the voice is gradually reduced and the responses of the child are observed and recorded in terms of the softest recording to which there is a response.

these programs, under the supervision of the local medical society. The hearing aid salesmen and optometrists are making the public increasingly aware of the need for these programs. If the apathy on the part of organized medicine and the physicians individually persists, it will be much more difficult for medicine to present the correct type program to the public. In general, it behooves our medical societies and our local Otolaryngology and Ophthalmology segments to start thinking about a positive approach to these problems. The state of Minnesota has several excellent films on both the training of volunteer personnel to handle these clinics and to tell the reasons why these clinics are being held. The films are well done and interesting and give a simple solution to a growing problem of the pre-school youngster and the glaucoma patient. Financial backing for a program of this type can probably be obtained easily from the Lions' Club Organization and the Knights Templar Foundation, and/or possibly from other state and independent agencies.

OTOLARYNGOLOGIST'S COMMENTS

Hearing losses due to otitis media and its sequellae, eustachian tubal obstruction problems, and inner ear damage caused by noise, infections, injury, drugs, and other factors, are common problems in all age groups. In children they are especially treacherous because they can impair school work and produce far reaching ramifications into adult life. Detection of these hearing abnormalities and early treatment is imperative. Hearing testing in the children and in the population in general has been a neglected function of medicine in the past. This field has been entered and largely removed from the family doctor's office by para-medical technicians. Some of this has not been for the betterment of the patients.

Until the last session of the South Dakota Legislature there was no requirement as to the training, competence, or control of who might sell, fit, or detail hearing aids. The use of a sound amplifying device is as much a form of treatment of a human health problem as is a crutch or cast employed to help heal a broken limb. Under the law which became effective in July, 1968, all persons dealing in hearing aids must take a test of proficiency and be licensed. Unfortunately, under this law licensing is done by an independent Board of Examiners, apart from the State Health Department, and not subject to critical scrutiny by any organization which specializes in health oriented activities. The single physician and the single university trained clinical audiologist can be easily outvoted by the three hearing aid dealers who sit on the 5 man board. It is hoped that the hearing aid dealers will live up to their avowed purpose which is to police their own ranks and improve the quality of service rendered by those selling hearing aids. As of this moment there is absolutely no requirement legal or otherwise as to training, competence, or ethics, for the person who desires to practice "speech and hearing" in this state. It was the experience of one of us (JBG) to view a television "commercial" over a Washington, D. C. station in late 1967, beamed toward persons who might be so disposed to enter the field of speech and hearing as a career. The thought was directed, "why go to medical school; it takes 9-10 years, when you can go into speech and hearing, complete your course of study in 4-5 years, and make $8,000.00 to $10,000.00 per year, without all the extra time." The implication left with the viewer was that it is a waste of time to go to medical school when one can do the same work, receive adequate compensation, and have basically the same responsibility in the ear-throat area, and prestige equal to the physician. Should not the physicians wonder regarding their role in this area of patient care?

A recent phenomenon in South Dakota has been the speech therapist who has no medical background examining ears with an otoscope and diagnosing publicly "serous otitis media," "scarred ear drums," and other presumed pathology; "diagnoses" not confirmed upon subsequent medical examination. Patients have been told by audiologists that they are candidates for complicated Otologic surgery, without competent medical consultation. Pseudoscientific activities such as these by persons who may be referred to as "Doctor," but who are not physicians, put the family physician and the otolaryngologist into a compromised position in the treatment of ear and hearing disorders.

Recently in the State there has appeared a strong trend for the referral (almost to the point of recruitment) of persons suspected of hearing losses to speech and hearing clinics at various state supported institutions, despite the fact that the majority of the problems referred to these "clinics" have not received medical evaluation, facilities for complete medical evaluation are not available at these "clinics," and most persons referred are more in need of medical than remedial therapy. Some Public Health nurses in the state are sending **medical hearing loss** children to institutions such as the School

for the Deaf "for evaluation," despite the fact that no competent facilities are available there to completely evaluate or to treat the problems. The feeble excuse is given, "it doesn't cost them anything." — This is a gross mis-statement! ! ! The psychological trauma to the children and their parents is often tremendous. The expense in time lost in travel, waiting to be seen, being told that facilities for treatment are not available, and then being referred back to their family doctor who should have seen them in the first place, far exceeds any advantage gained from the "free service." Somewhere along the line the family doctor has lost his position in the diagnosis and treatment of hearing and vision problems. An opportunity exists in the form of the pre-school vision and hearing screen program, as has been developed in Minnesota, for the medical profession to render a valuable service to the people of this State and to regain lost prestige.

It is conceded that a program for hearing and vision testing in the physicians' offices would be cumbersome and time consuming, taxing the already strained time schedule of the doctor. Much time would be saved if the actual testing for gross abnormalities is done by trained volunteers, followed by referral of persons found with abnormalities to the family physician, and then investigation of the problem **by him or his designee.**

At the present time children in the majority of the larger communities of this state are screened in school for vision and hearing problems, the testing being done at a certain age/grade level (often 2nd and 6th grades). Individuals demonstrating poor school work and suspected of eye or ear disorder may be tested in any grade. Public Health nurses do screening checks in many rural schools where there are no other facilities available, but until recently there were many children in rural areas whose sight and hearing never were checked. A mobile hearing test laboratory based at the Speech and Hearing Clinic of the University of South Dakota now travels the state on a pre-scheduled route, testing in the smaller communities upon request. The facilities of this one unit are already being taxed quite severely after only about 3 years operation, and it is apparent that at least one and possibly two more similar traveling units will probably be needed in the future. It is possible that vision screening could be incorporated into this program. Gradually the children having impaired hearing are being detected and, hopefully, receiving appropriate treatment.

One of the most persistent problems of any hearing test program is that of over-referral, and one of the commonest sources of excessive referrals is an upper respiratory infection in the individual at the time of testing. Unfortunately facilities for re-testing in 6-8 weeks after the original screening are not available as yet. This would eliminate many situations of apparent over-referral. Other factors producing over-referral of children are immaturity, poor co-operation, cerumen in the ear canals, and inner ear losses of minor degree. Criteria for referral of children found to have hearing losses by the screening team are now being standardized by a committee representing the South Dakota Academy of Ophthalmology and Otolaryngology and the Speech and Hearing Clinic of the University of South Dakota. As soon as they are available these will be released to the Journal of the S. D. Medical Association.

Getting a child to his family doctor, **with a copy of the audiogram,** is another tremendous logistical problem of the hearing test programs. This is improving with time. However, too frequently the report is lost, left at home, or for some reason does not accompany the person when he is seen for medical evaluation. If an audiometer is not available in the physician's office (as is most frequently the case) it is impossible to know exactly what sort of hearing problem is suspected. It is an unfortunate circumstance that in several instances the family physicians have looked at the children's ears, found no abnormality apparent to them, and then told the parents that "there is nothing wrong with child's ears or his hearing." On occasions remarks have been made to the effect that the audiometrist didn't know what he was doing, casting aspersions upon the hearing testing program. It is too bad that these circumstances have occurred, because **this attitude has done much to retard the development of a basically good and needed program** for the State of South Dakota. If the family doctor doesn't know about audiometry, let him seek the advice of someone who does. Two years ago members of the Committee for the Conservation of Hearing of the South Dakota Academy of Ophthalmology and Otolaryngology volunteered to present discussions regarding hearing testing and treatment of hearing losses to medical societies, clinics, and practitioners of medicine, **without**

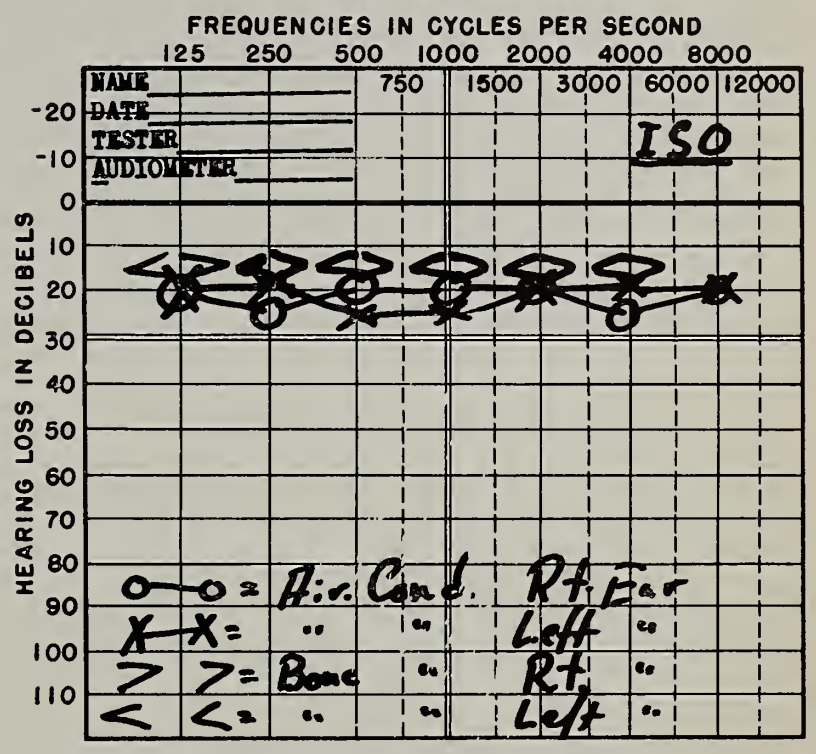
any takers. In some portions of this state physicians and student nurse training programs are depending upon advice and instruction from hearing aid dealers in the diagnosis and treatment of hearing disorders. Is this not a case of the blind leading the blind? ? ? ?

Controlled studies of the techniques used by the members of the hearing test team from the University of South Dakota[5] have showed that they missed **only 0.8% of the active ear disease** (suppurative otitis media, serous otitis media, perforated ear drum) in large groups of pupils tested. Otological evaluation of these same children showed many who had scarred drums representing previous ear disease, but in whom the hearing was unimpaired. The fact that these children were functionally normal means that they will not be harmed in schoolwork or elsewhere, and the scars can be disregarded. These same studies have showed that cerumen in the ear canals is largely overdone as a cause of hearing loss. The major drawback to this hearing test program to date has been that of over-referral of children, primarily those with eustachian tubal obstruction and mild inner ear (sensori-neural) losses.

If the major problem is over-referral, should not the family physician be encouraged and try to fathom its cause, not condemn the testing team? ? ? ? A gentle explanation to the parents that the child was probably tested at the time there was a cold, is immature, may not have been attentive, would do much to advance the confidence of the public in the program. In the instance of minor degrees of sensori-neural type losses, probably the commonest losses found in screen tests, the physician must counsel the child and parents regarding the possible causes and any potential future danger to the hearing. This should include a discussion of noise injury,[6, 7, 8, 9, 10] drug injury, damage from infections, and other factors.

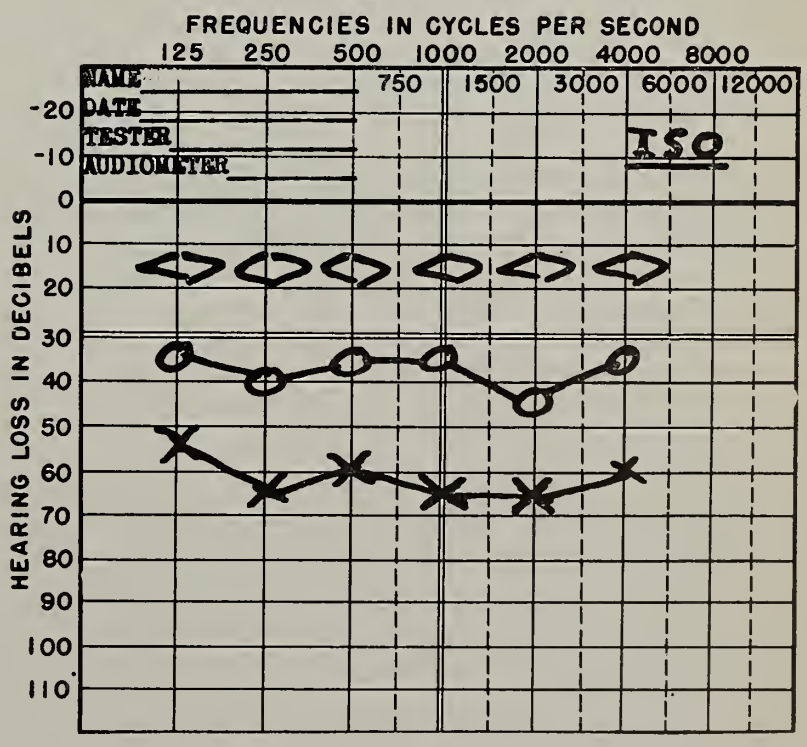
Although the hearing screening program used in Minnesota utilizes a modified form of speech audiometry (using a specially designed tape recording upon which the voice sound is gradually attenuated, engineered so as to minimize the experimental error), much more satisfactory in the testing of young or immature children, the majority of the hearing testing in schools is done with the **pure tone** instrument. With it the person's responses are sampled in decibles (db) of sound energy at definite, predetermined frequencies which fall primarily within the speech tone spectrum. Examples of representative pure tone audiograms are seen in figures ♯4, 5, 6, 7. It should be noted that these are indicated **I S O,** an audiometric calibration standard adopted in the very recent past to promote greater accuracy. Prior to 1964 all pure tone audiometers were calibrated **A S A.** Table 1 illustrates transformation data for conversion from **ISO** to **ASA,** used by the U.S.V.A.

Figure ♯4.



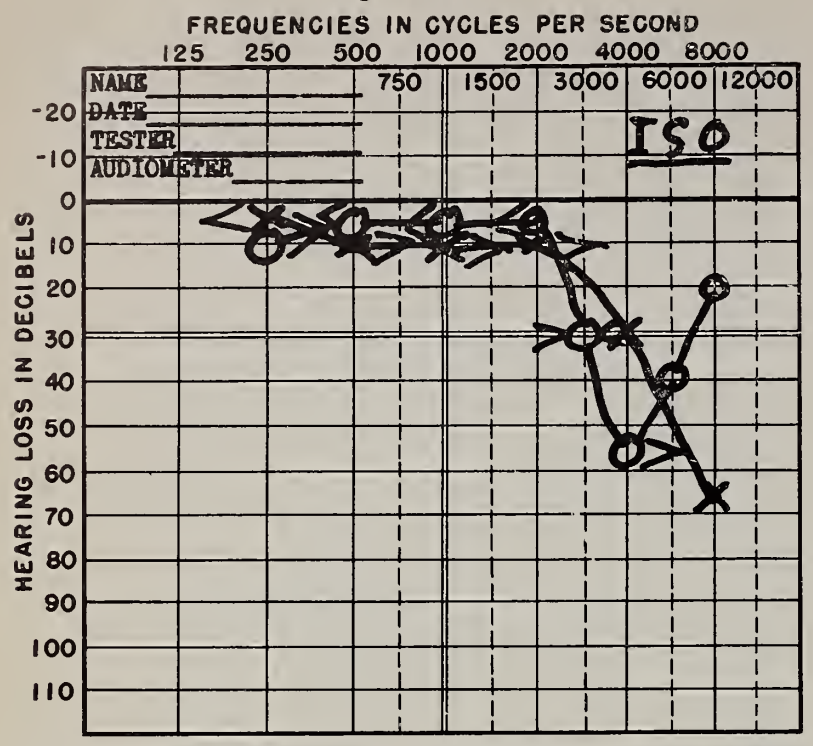
Normal audiogram showing air and bone conduction. Standard procedure utilizes "O" (in red color) for the Right Ear and "X" (in blue color) for the Left Ear. The name of the person tested, the date, the name of the tester, and the audiometer used should be indicated upon the audiogram. Primary emphasis is put upon the responses in the Speech Frequency Range (256—4000 cycles per second). Bone Conduction is indicated as an arrow pointing in the proper direction, Left-blue, Right-red. It should be specified upon the audiogram whether the audiometer is calibrated A S A or I S O.

Figure ♯5.



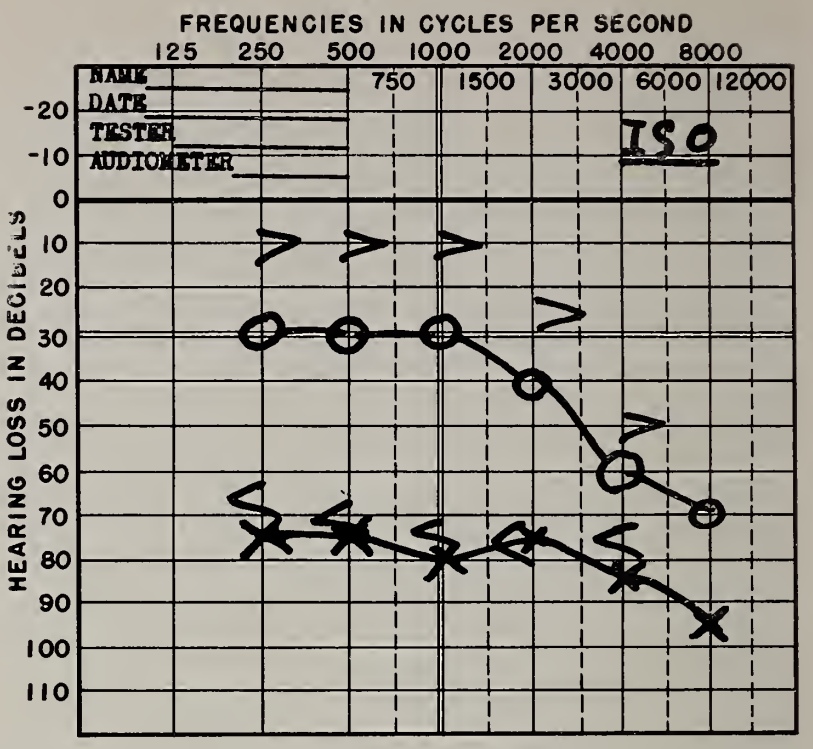
Conduction loss, mild (Right) and severe (Left). Note discrepancy between air and bone conduction (air-bone gap), indicating defective transmission or conduction of sound to the inner ear.

Figure ♯6.



Inner ear (sensori-neural) hearing loss, mild. Both bone and air conduction depressed in frequencies involved. The type of curve on the Right is more often seen in acoustic (noise) trauma, produced by explosive noise exposure, or noxious chemicals. The sloping curve seen on the left is more characteristic of presbycusis (aging) effect upon the cochlea but can be seen with long term noise exposure (tractor or machinery), hypertension and other factors.

Figure ♯7.



Mixed type hearing loss on the **Right,** manifested by conduction loss in the low frequencies and depression of both bone and air conduction in the high frequencies. Severe sensori-neural type loss is seen on the **Left,** manifested by marked depression of both air and bone conduction curves.

Table ♯1
ISO Transformation Data

Frequency	Conversion Desired	
	*ISO to ASA (Subtract)	ASA to ISO (Add)
125	10.0 dB	10.0 dB
250	15.0	15.0
500	15.0	15.0
1000	10.0	10.0
1500	10.0	10.0
2000	10.0	10.0
3000	10.0	10.0
4000	5.0	5.0
6000	10.0	10.0
8000	10.0	10.0

The basic difference is that testing done **I S O** is recorded 5 to 15 db lower on the audiogram. In the interpretation of audiograms it is important to keep in mind the scale being used to record results. As the **I S O** calibration becomes generally utilized, interpretation of audiograms will be less confusing.

SUMMARY

Testing of visual and hearing function and treatment of abnormalities found are very much within the province of the Family Doctor. All problems involving the eyes and ears should be screened medically before any other form of therapy is instituted. If the defect cannot be corrected by specific drug, surgical, or medical treatment, remedial therapy by trained personnel in the appropriate area of endeavor must be instituted. The interests of the patient will be best served if the physicians of this state and the para-medical personnel can work as a team in the treatment of the whole person. However, despite the fact that there is considerable overlap in the training and experience of the different disciplines represented on this treatment team, there will eventually have to be some specific delineation between the different disciplines, so that misguided efforts by certain overzealous individuals who exceed their capabilities and training, will not jeopardize the entire program. The physicians, optometrists, and now the hearing aid dealers are all covered by licensing laws of this state with specific stipulations regarding training, demonstrated competence, ethics, and qualifications. Undoubtedly the speech and hearing people will soon be investigating the subject of licensure for themselves. It is to be hoped that any such licensure will be subject to the basic science laws of this state and will definitely delineate the field of speech therapy and audiology.

Glaucoma seeking programs and pre-school vision and hearing screen programs are definitely needed in this state. Some most excellent guidelines for pre-school vision and hearing testing have evolved in Minnesota. Similar programs are needed and must be started in South Dakota. The medical profession has a tremendous stake in these functions and can perform a great service to the people of this State by sponsoring, backing and encouraging their growth.

It is to be hoped that in the future funds will become available through the State Health Department or other appropriate agency for the treatment of vision and hearing disorders which are found in the medically indigent families of this state. At the present time the indigent Indian children living in this state receive better eye and ear care than the remainder of the children. If a non-Indian indigent child has a medically remediable hearing problem or is in need of eye glasses or a hearing aid, no funds are available on a state level for either medical treatment or hospitalization. Some congenital eye diseases can receive hospitalization and medical treatment under the Crippled Children's Program, but many other defects go untreated due to lack of money. The physicians of South Dakota can be tremendously influential in stimulating public interest in vision and hearing conservation programs. It is only if the programs for detection and treatment of these disorders receive the whole-hearted support of everyone concerned that they can grow and be of service to the state.

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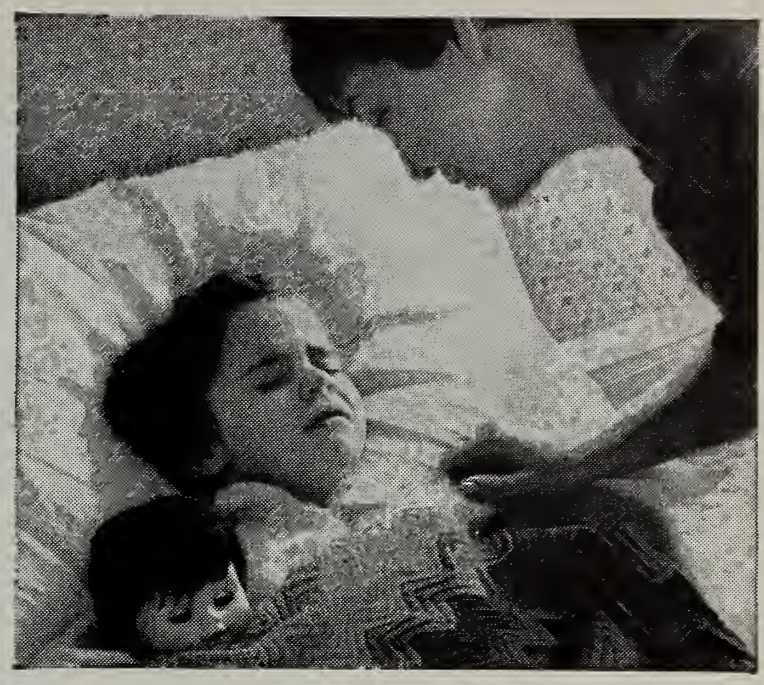
The fall meeting of the South Dakota Ob-Gyn Society will be held Saturday, November 23, at the Minnehaha Country Club in Sioux Falls. John Sciarra, M.D., Chairman of the Department of Obstetrics at the University of Minnesota, and William Anderson, M.D. from the Department of Obstetrics at the University of Iowa will be guest speakers.



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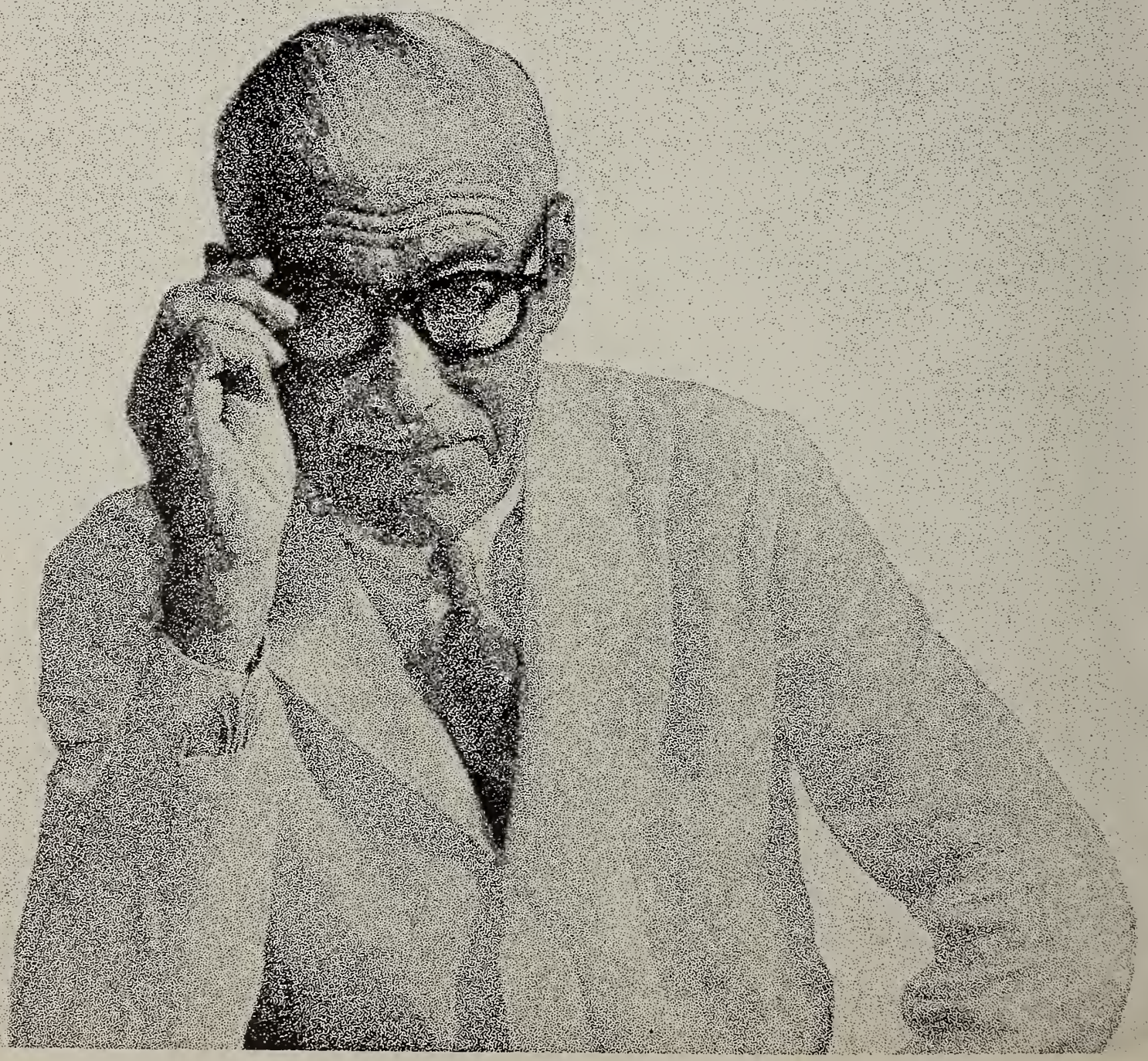

Scientific PAPER

DEATHS FROM CORONARY HEART DISEASE IN PERSONS UNDER THE AGE OF 55

Thomas E. Corothers, Sioux City, Iowa
James E. Mallow, M.D., Sioux Falls, South Dakota
Frederick M. Stark, M.D., Sioux City, Iowa

There have been differing opinions concerning the composition of the so-called coronary profile, especially on the question of whether a personality factor should be included. Coronary heart disease (CHD) has been commonly considered to be a psychosomatic disorder, the work of Helen Flanders Dunbar[1] having had a strong influence in this regard. Gildea[2] condensed the views of 3 authors, including Dunbar, concerning the personality make-up in coronary patients: "Great need for and respect for authority. Unremitting workers. Stick to one occupation. Planned career, executives and officials. Compulsive." A more recent study, carried out by Rosenman, Friedman and others[3, 4] resulted in the conclusion that a specific overt behavior pattern, referred to by them as type A, was associated with increased occurrence of CHD. This behavior pattern was characterized by restlessness, rapid bodily movements, impatience, a sense of time urgency, excessive drive and competitiveness. Another study[5] suggested that individuals are more coronary-prone when they are more subjected to the social pressures for success in the American middle class "Protestant ethic." One report[6] tentatively concluded that coronary patients showed great control and inhibition in their behavior.

Miles and others[7] in a study of 46 young men with CHD found no convincing evidence that any personality differences between the patients and the controls could be implicated as a factor in the genesis of coronary artery atherosclerosis. In another investigation[8] that was concerned with personality patterns in coronary patients the authors had difficulty in making any positive formulations. Ibrahim[9] found coronary patients to have a low level of overt hostility, an elevated level of repression and an elevated anxiety level but concluded that this pattern followed the onset of CHD.

In the present study we have undertaken a retrospective evaluation of persons who died of CHD before reaching the age of 55. Although much of the data collected was of a routine nature, we were especially interested in behavior patterns, any other personality factors, and the socio-economic levels of the individuals in our series.

METHOD

The source for the cases used in this survey was the Department of Health of Sioux City, Iowa, whose records related to an urban population of some 90,000 and to rural Woodbury County with another 18,000 residents. In addition, these vital statistics included some persons from adjacent counties who died in Sioux City hospitals. The study was confined to a 4½ year period from January 1, 1961 through June 30, 1965, during which time 128 deaths from

CHD occurred in people under the age of 55. Because of difficulty in locating suitable informants for some cases and after the exclusion of 3 individuals whose diagnoses were doubtful, the number of cases used was reduced to 78, 10 women and 68 men, with ages at death ranging from 39 to 54 for the women and from 33 to 54 for the men. A good clinical description from the informant regarding the terminal illness was considered adequate to confirm the recorded diagnosis of death from CHD. However, in 28 cases an electrocardiogram was taken after the onset of the fatal attack and in 17 cases an autopsy was performed.

In 60 instances the informant was the surviving spouse. In the other cases a person that had been well acquainted with the deceased was used, usually a brother or sister. The interrogations were carried out during the summer of 1965 by one of us, who called on the informants at their homes. The same questionnaire was followed in each instance. The inquiry explored several areas including educational level, religious affiliation, marital history, occupational and avocational data, an estimate of accustomed physical activity, dietary habits, use of tobacco and alcohol, body build, record of coronary disease in relatives, and past medical history. The informant was asked to make a statement concerning the personality of the deceased prior to questioning about specific traits and behavior patterns. As much as possible we tried to avoid posing questions in a leading and suggestive way.

RESULTS

All of the individuals in this study were Caucasian and all but one were born in the United States, north European stock predominating. The proportion of Protestant and Roman Catholics was similar to that in the local community, with 54 Protestant, 21 Catholic, 1 Jewish, and 2 non-affiliated persons included. The composition of the group by age at the time of death showed the expected pattern of greater numbers at the higher age levels (Table). Of the 68 men and 10 women in this series, 38 men and 5 women had had a diagnosis of CHD prior to the fatal attack. Another 9 men and 4 women had had probable coronary symptoms without a diagnosis having been made. There were no previous symptoms or diagnosis of CHD in 21 men and 1 woman, of whom 14 men were under 50 years of age at the time of death.

Of the 68 men included in this series 59 (86%) were cigarette smokers and 5 were cigar smokers. Of the 4 men who did not smoke 3 were known to have had hypertension. Of the 5 cigar smokers 2 had hypertension, 1 was extremely obese, and another had hypercholesterolemia. In other words there were only 2 men in the group who were not either cigarette smokers or affected by some medical condition considered to be predisposing to CHD, a nonsmoker who died at 53 and a cigar smoker who died at 54. There were 8 men with hypertension and 3 men with diabetes among the 59 cigarette smokers. One of the women never smoked but was known to have had hypertension for 10 years before her death. The other 9 women averaged more than a pack of cigarettes per day for a number of years, although one had discontinued smoking a few months before her death.

					Alcohol Consumption			Body Build				
	Age Range	Number	Family History CHD	Cigarette Smoker	None	Occasional	Moderate	Problem	Slender	Slender-muscular	Muscular	Muscular-obese	Obese
Men	30-34	1	1	1	1				1				
	35-39	2	1	2			1	1			2		
	40-44	2	2	1		1	1				2		
	45-49	23	9	22	4	3	10	6	3	3	12		5
	50-54	40	24	33	7	1	25	7	5	7	18	3	7
	Totals	68	37	59	12	5	37	14	9	10	34	3	12
Women	35-39	1		1			1				1		
	40-44	2	2	2			2		1				1
	45-49	1			1								1
	50-54	6	2	6		1	2	3	3	1			2
	Totals	10	4	9	1	1	5	3	4	1	1		4

There were 14 men and 3 women who were considered to have been either chronic alcoholics or problem drinkers. In addition, 37 men and 5 women were characterized as moderate drinkers, about one third of whom had an estimated consumption of alcohol ranging above 10 mixed drinks or cans of beer per week.

We obtained in over half the cases (37 men and 4 women) a history of CHD in one or more relatives. In regard to body build 47 (69%) of the men were described as muscular, including 10 between muscular and slender and 3 between muscular and obese (Table). With respect to dietary habits and physical exercise the information that we obtained was inconclusive. There was the expected paucity of individuals in this age group who were in the habit of taking really vigorous exercise.

The persons in this study showed a nominal amount of overt psychiatric disease aside from alcoholism. In only 6 men and 1 woman was there a history of a "nervous breakdown." In the case of 25 men and 6 women it was reported that they had been exposed to unusual worry within the 6 months period before death. For the most part these people were not inclined toward a hypochondriacal pattern, only 8 men and 1 woman being regarded as chronic complainers. Reduction of appetite was rare. Only 8 of the men and 2 of the women had any problem with insomnia. However, chronic fatigue was a common complaint in the weeks or months before death, noted in almost half of the cases.

An attempt was made to classify the individuals in the group as belonging to behavior patterns type A or type B of Rosenman and Friedman according to answers received regarding the presence or absence of restlessness, rapid bodily movements, impatience, sense of time urgency, excessive drive and competitiveness. There was a further attempt to subdivide those cases in the type A group as A1 or A2, A1 being the more fully developed A pattern, and those cases in the type B group as B3 or B4, B4 being the more fully developed B pattern. Although some cases fell clearly into pattern A1 or B4, the distinction between A2 and B3 was difficult to make. There were 12 men classified as A1 and 10 men who fell into category B4. Of the women 3 were considered to fit the A1 pattern. The remaining cases could not be clearly designated as either of the A or B pattern.

Division of the cases into 5 social classes was made on the basis of Hollingshead's 2 factor index of social position, based on the education and occupation of the head of the household.[10] The 68 men fell into these 5 social classes as follows: 2 in class 1, 5 in class 2, 24 in class 3, 31 in class 4, and 6 in class 5. This pattern seemed to roughly correspond to what would be expected in the population at large,[11] over half of the individuals falling into classes 4 and 5.

DISCUSSION

In this study death from CHD was uncommon under the age of 55 except in either cigarette smokers or individuals with a medical disorder known to be predisposing to coronary disease (notably hypertension or diabetes). The 21% incidence of alcoholism and problem drinking in this series seemed to be greater than in the population at large. Using the figures of Mulford and Miller[12] in their study of drinking in Iowa one would expect about a 9% incidence of alcoholism in urban dwelling men of the 36 to 60 age range. These authors also estimated the occurrence of heavy drinking (3 or more drinks 2 or more times per week) in Iowa and gave figures which would work out to about a 19% incidence of heavy drinkers in men of urban residence in the 36 to 60 age range. In a follow-up report of the Framingham study[13] it was stated that alcohol consumption per se did not show any relation to the development of CHD, although it was considered significant that heavy alcohol intake was commonly associated with heavy smoking.

Although not so stated by the authors, the individual with the behavior pattern Type A of Rosenman and Friedman would seem to have a compulsive element in his personality and a somewhat elevated anxiety level, with part of this anxiety being manifested externally in the form of rapid bodily movements and restlessness. Even though the typical type A pattern and also its opposite are recognizable in many people, a large segment of the population does not seem to be easily differentiated in this way. If one tries to classify friends and patients as to behavior pattern A or B, it becomes apparent that many people fall in between, including some with admixtures such as the person with strong competitiveness and drive combined with an unhurried demeanor. Within the obvious limitations of the present retrospective study we were not able to demonstrate a preponderance of individuals with overt behavior pattern type A in this relatively unselected group of people dying of CHD under the age of 55. The distribution of our cases according to social class

was similar to what one would expect in a random sampling of the population. This finding would be congruous with the failure of pattern A individuals to predominate since over 50% of our coronary victims fell in classes 4 and 5 where one would expect few ambitious persons of the type A pattern. In this connection the incidence of CHD in the follow-up Framingham study referred to above[13] showed an inverse relation to educational status, the occurrence of new CHD being less at higher educational levels.

The results of this study seem to conform in many ways to the findings of a similar investigation carried out in Seattle[14] where all segments of society were found to be included in early coronary deaths and where underachievers, indolent persons and heavy drinkers were well represented.

SUMMARY

A retrospective study was made of 78 individuals who died of coronary heart disease before reaching the age of 55, the cases being obtained in a community survey. The findings showed that early death from CHD was uncommon except in either cigarette smokers or people affected by a medical condition considered to be predisposing to CHD. A high incidence of alcoholism and problem drinking was noted. Within the limitations of this investigation we could not demonstrate a preponderance of individuals with the so-called behavior pattern type A. The percentage of cases in each social class was about the same as would be expected in a random sampling of the community at large.

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Scientific PAPER

EMPHYSEMA REHABILITATION PROGRAM IN SOUTH DAKOTA

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B. F. Hins, State Director, Vocational Rehabilitation, Pierre, South Dakota

The State Department for Vocational Rehabilitation in conjunction with the School of Inhalation Therapy in Watertown, South Dakota has started a rehabilitation program for chronic obstructive pulmonary disease (emphysema). Since such organized programs are new, not only for South Dakota, it appears opportune to describe the justification, the details of operation, and the goals of the program in order to make it known to all South Dakota citizens in need.

Justification of the Program

Chronic obstructive pulmonary disease becomes more and more the cause of disability and death, even in South Dakota. In our state during the last few years, there were an increasing number of persons who died because of emphysema[1]:

1960—21	1964—58	
1961—28	1965—74	
1962—42	1966—82	
1963—38	1967—89	(estimated)

It is believed that a good number of these persons could have survived if early diagnosis and concentrated rehabilitative efforts had been employed, including a program as it is now offered, as well as placement in different occupations, where the person is less exposed to contributory noxae. The acknowledged fact that South Dakota has practically no air pollution appears to have no influence upon the incidence of emphysema, since the disease has almost tripled in morbidity and mortality during the 5 year period from 1960-1964.

A recent survey[2] of patients admitted to 13 general hospitals in South Dakota during the years of 1960 through 1964 yielded interesting facts. Since the study covered slightly over 50% of all hospital admissions in the state during that time, it is thought to be representative. It should be mentioned that the classifications were taken from the hospital discharge summaries without any special attention for pulmonary problems and in the majority, are clinical diagnoses without laboratory tests as to severity, etc. (retrospective clinical study). This is the only study for South Dakota so far available.

Out of 303,811 admissions (1960-1964) there were:

1,737 patients with asthma (0.57%)
1,267 patients with emphysema (0.42%)
604 patients with chronic bronchitis (0.20%)

and

4,617 patients with chronic respiratory disease (1.5%).

It is noteworthy that asthma, emphysema and chronic bronchitis are overlapping diseases and therefore the chronic obstructive pulmonary diseases accounted for 1.19% of all hospital admissions from 1960-1964.

The statistics on emphysema are especially revealing. The absolute figures for this disease during the observation period were:

1960	122 cases
1961	144 cases
1962	237 cases
1963	316 cases
1964	398 cases
for a total of	1,267 cases.

The increase during the observation period was therefore +226.4% in morbidity. Remarkable is the preponderance of males in the period (958 males against 183 females) but the increase of morbidity in both sexes was about equal (+209% in males against +200% in females). In 126 cases, the sex was not specified,

The age distribution was as follows:

0- 9 years	0.8%
10-19 years	0.1%
20-29 years	0.3%
30-39 years	1.3%
40-49 years	5.1%
50-59 years	15.6%
60-69 years	34.6%
70- years	42.2%

From these authoritative figures one can deduce beyond doubt, that the morbidity and mortality is increasing at present and that there will be increased disability from this disease in the future, thus increasing the demand for treatment and rehabilitative facilities.

An organized rehabilitation program for this disease, as of now is offered only on a very limited basis in the United States, namely, in the Spain Rehabilitation Center, School of Medicine, University of Alabama, Birmingham, Alabama, and in the Institute of Physical Medicine and Rehabilitation, New York University Medical Center, New York, New York. No such program exists in the HEW-Region VI, however, Mount Sinai Hospital, Minneapolis, Minnesota has started a very limited program recently. The intent of the program presented here is to offer rehabilitative medicine for pulmonary diseases in a rural area and a non-university affiliated community hospital. Until now, there are only insufficient diagnostic, therapeutic and rehabilitative pulmonary services available in our state.

Description of the Program

The program is offered in the Rehabilitation Center of Memorial Hospital, Watertown, South Dakota and any request for admission to the program should be directed through the private physician to the Medical Director of the Rehabilitation Center, Memorial Hospital, Watertown, South Dakota. The program is available to all citizens of South Dakota, but citizens of other states can be admitted by special arrangement through the Medical Director of the Rehabilitation Center. Priority will be given to referrals from the South Dakota State Department for Vocational Rehabilitation. No discrimination against race, religion, sex or national origin will be tolerated.

Patients requesting admission to the program will undergo a diagnostic work-up, either with their private physician or in the Rehabilitation Center and subsequently be evaluated by the program staff as for suitability for the program.

Those patients who are admitted to the program will be enrolled in the next course at the Rehabilitation Center, which lasts three weeks. Patients who are not living in or near Watertown, or who are not lodged privately, will be hospitalized in the Extended Care Facility of Memorial Hospital, Watertown, South Dakota.

A typical day of this course will have the following schedule:

8:00- 8:30	Nurse's interview, charting
8:30- 9:00	IPPB treatment
9:00-10:00	Lecture about disease, prevention, treatment, goal. Also during this time personal interviews and discussion of problems will be conducted.
10:00-11:00	Physical therapy, breathing techniques, etc.
11:00-11:30	IPPB treatment
11:30-12:30	Group A (half of the patients): Lunch Group B (half of the patients): Occupational therapy, occupational counseling.
12:30- 1:30	Group A: Occupational therapy, occupational counseling. Group B: Lunch
1:30- 2:00	IPPB treatment
2:00- 3:00	Physical therapy, exercises (walking and staircase climbing, etc.)
3:00- 4:00	Occupational therapy
4:00- 4:30	IPPB treatment

IPPB machines are made available through a grant of the South Dakota State Department of Vocational Rehabilitation.

On Saturday afternoons and Sundays, the schedule will change as lectures, physical therapy and occupational therapy classes will not be held. Each Thursday afternoon, a Staff conference will be held, each patient's course and

progress will be reviewed and adjustments will be made. Each Monday morning, throat cultures or induced sputum cultures (hot saline) will be obtained, and if needed, the patient will be placed on antibiotic therapy. Spirograms will be obtained once weekly and compared with previous results; other abnormal findings will be followed individually as required. Any other medical need will be taken care of by the personal physician, if a local resident; otherwise by the Internal Medicine consultant of the Center. Sputum between 5:00 p.m. and 8:00 a.m. will be collected and examined that morning for quantity and quality. Any contributing problem will be corrected if it interferes with the rehabilitation progress for the patient. The course will start on a Monday morning and finish on the third following Friday noon.

Goals of the Program

The goals of the program are:

1. At the end of the program, the patient should have a full understanding of his disease, its prevention and its treatment.
2. The patient should have improved in his pulmonary functions.
3. The patient will be able to continue his treatment with a home treatment program, tailored to his needs in co-operation with his personal physician, with medication and physical self-help.
4. The patient should be independent of such means as cortisone and oxygen which are worthless or of no value as far as rehabilitation is concerned.
5. An occupational therapy program has been started and will continue after discharge and hopefully will lead to gainful employment.
6. A direct line of communication is opened between the patient and his personal physician and between these and the rehabilitation center in order to manage the patient continuously.
7. The patient will have easy access to the intensive pulmonary care unit, in case of emergency, and the rehabilitation center facilities.
8. The patient will remain under continuous supervision and follow-up program and undergo short "refresher" courses, perhaps one week long, if necessary.
9. If this program is successful, can serve as a demonstration project for similar ones in the area or HEW Region and as such, be a postgraduate education center for pulmonary diseases, this for physicians as well as ancillary medical personnel. An evaluation of the program will be undertaken yearly and will be reviewed by the South Dakota Health Planning Commission, the South Dakota Planning Commission for Heart, Cancer, and Stroke, the Medical Education and Research Committee of the South Dakota Tuberculosis and Respiratory Disease Association and the United States Public Health Service.

SUMMARY

When funds permit, the State Department of Vocational Rehabilitation will offer in conjunction with the School of Rehabilitation Therapy of Watertown, South Dakota, a rehabilitation program for patients with chronic obstructive pulmonary disease (emphysema). The justification for such a program in South Dakota, details of the operation and intended goals we believe have been given.

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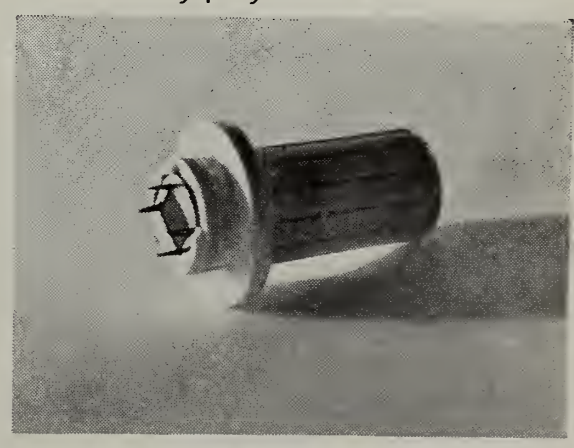
PHYSICIAN NEEDED IMMEDIATELY — present partner leaving 9/68. Prefer either general surgeon with GP experience, GP with general surgery experience, or GP - married and under age 46. Industrial town of 3500 economically unsurpassed located in NE Minnesota in Superior National Forest. Three large industries in town employ 2100 and I am only MD present. Practice consists of large private practice and treatment of industrial injuries. Clinic with complete modern facilities. High collection rate and very low overhead. Good housing available with no down payment required. **EXCELLENT INCOME** with many fringe benefits. Can get deferment. **UNEXCELLED** fishing-hunting-boating-camping-golfing-etc. Write with particulars or call after 6 p.m. All replies will be kept strictly confidential. T. C. Leach, M.D., Babbitt, Minn., 55706, 827-6830.

To fight TB- find it first!

Make tuberculin testing routine with every physical examination.



TUBERCULIN, TINE TEST
(Rosenthal)

Side effects are possible but rare: vesiculation, ulceration, or necrosis at test site. Contraindications: none, but use with caution in active tuberculosis. Available in 5's and 25's.

Lederle

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"Now that your acne is clearing up nicely,
it might be a good idea if you started losing some weight."

THE UNIVERSITY OF SOUTH DAKOTA SCHOOL OF MEDICINE

COMMENTARY

EDITED BY THE PUBLICATIONS COMMITTEE · 60th ANNIVERSARY YEAR

NEW FACULTY

Dr. Karl Wegner, a native of Pierre, was recently appointed Professor of Pathology and Chairman of the Department. Dr. Wegner attended Pierre High School and subsequently received his B.A. degree from Yale University. He served in the U. S. Marine Corps from 1952-1954 after which he attended Harvard Medical School, receiving his M.D. degree in 1959. Dr. Wegner served his internship and residency in Pathology at the Massachusetts General Hospital. He is a Diplomate of the American Board of Pathology, a Fellow in the American Society of Clinical Pathologists and the College of American Pathologists.

Since 1962, he has been practicing in Pathology at the Sioux Valley Hospital and the Laboratory of Clinical Medicine in Sioux Falls.

Dr. William R. Mayberry is a native of Colorado and received most of his education in that state. He received his B.A. in Chemistry from the University of Colorado in 1961 and his M.A. in Chemistry from Western State College of Colorado in 1963. Dr. Mayberry then attended the University of Georgia where he received his Ph.D. in Bacteriology and Biochemistry in 1966. Dr. Mayberry has been studying gas-liquid chromatography systems since he began work on his Masters program and is regarded as an expert in that area. He held the position of Instructor at the University of Georgia prior to his appointment here as a Post-doctoral Fellow. Dr. Mayberry was recently appointed Assistant Professor of Microbiology.

Another native of South Dakota, Dr. Edwin M. Perkins, Jr., has been appointed Assistant Professor of Anatomy. Dr. Perkins attended high school at Sioux Falls Washington and received his B.A. in Biology from Augustana College (S. D.). He also received his B.S. in Medicine from the USD Medical School in 1961. His Ph.D. in Anatomy was granted by the University of Oregon School of Medicine in 1968.

Dr. Perkins' special areas of interest are histochemistry, cutaneous biology and dermatopathology and he has published a number of papers in these areas. In his present capacity Dr. Perkins will be responsible for teaching Histology, Embryology and Neuroanatomy.

Dr. Perkins is married to Sherry Lou Terry of Sioux Falls and the couple have one son.

ALUMNUS VISITS

Dr. Alton Ochsner, Director of the Ochsner Clinic in New Orleans, was the featured speaker at the annual National Sigma Xi Lecture sponsored by the University of South Dakota Chapter. Dr. Ochsner was welcomed at the Sioux City Airport by Chapter officers and was honored by distinguished guests at a reception later in the day. The evening was highlighted by a banquet and a talk by Dr. Ochsner on the hazards of smoking. Dr. Ochsner is an alumnus of the USD School of Medicine and was awarded an honorary degree by the University.

ANATOMY FELLOWSHIP

A gift from a group of South Dakota Physicians to the School of Medicine has been cited by President Moulton as a unique and significant contribution to medical education.

The gift of $12,000, made through the University of South Dakota Foundation, will support a four-year graduate fellowship in Anatomy in the School of Medicine. The donors are members of the Yankton Clinic in Yankton. The fellowship will be supervised and the recipient selected by the Department of Anatomy.

The fellowship has been established to assist in the financing of the training of a graduate student in anatomy whose goal is to become an instructor in a medical school.

—Volante

Path C A P sule

Submitted by the College of American Pathology in connection with the South Dakota Society of Pathologists.

SCREENING TESTS FOR THE DETECTION OF BLEEDING DISORDERS

The bleeding and clotting times and the clinical history were for years the only available means of detecting latent bleeding disorders, although it was well known that many potential bleeders were not discovered. The clotting time whether performed in a capillary tube or test tube is not altered in the presence of many serious coagulation defects. Its usefulness is so limited that it should be discarded as a screening procedure. The bleeding time, on the other hand, is still a very valuable tool and is most useful in the detection of bleeding disorders. Abnormalities of the vascular system will be detected by the use of this procedure more often than by the use of any other test. Some of the vascular disorders can cause severe hemorrhage which is very difficult to control. The Ivy or Duke method is the procedure of choice. Either of these tests is useful in detecting most of the clinically significant thrombocytopenias. The bleeding time is more reliable than the tourniquet test in the detection of platelet deficiency and has largely eliminated the need for the tourniquet test.

A carefully taken history still has a most important place in the detection of occult bleeders. Any patient with a history of abnormal bleeding should, of course, receive a comprehensive laboratory evaluation before undergoing surgery. A negative history of bleeding abnormality, however, should not lull the clinician into a false sense of security, for in the case of some patients with potentially severe bleeding disorders a history of bleeding abnormalities may not be obtained.

The clinician today has a number of sensitive procedures available to him for the detection of hemorrhagic disorders. Many of these have been simplified to the extent that they can be incorporated in a screening battery for routine use. One of the most valuable of these is the Partial Thromboplastin Time, PTT. It is the best available screening test for the detection of hemophilia and hemophilia-like disorders. It will show deficiencies of all of the coagulation factors except the platelet factors and Factor VII.

Platelet factor deficiencies can be detected by an accurately performed platelet count and careful examination of a peripheral blood smear. The use of this procedure will detect all **quantitative** platelet deficiencies, which comprise the bulk of the platelet abnormalities. When there is a qualitative defect in platelet function it can be identified by one of the more complex procedures such as the thromboplastin generation test (TGT) or an **in vivo** test such as the platelet adhesiveness test.

The rare occurrence of a Factor VII deficiency can be recognized by the finding of a prolonged prothrombin time together with a normal partial thromboplastin time. The routine performance of a prothrombin time will detect a number of other deficiencies of the coagulation system, such as the hypoprothrombin and hypofibrinogen states.

Most coagulation defects can be detected by the use of the above mentioned screening tests. When abnormalities have been demonstrated, however, more complicated and specialized procedures are necessary to identify the specific abnormality. Any therapy, except in the case of emergency, should be withheld until the specific defect has been identified.

The use of the screening tests will not detect the presence of circulating fibrinolysins. These agents act by lysing and destroying the formed fibrin clot. The most reliable means of detecting circulating fibrinolysins is the observance of the blood clot to see if rapid lysis of the clot occurs.

In summary, the performance of a bleeding time, a platelet count, a partial thromboplastin time, a prothrombin time and a clot lysis study will detect all but the rarest disorders. If these tests are abnormal, it is necessary to perform more specific procedures such as the thromboplastin generation test and assays using specific clotting factors to identify the precise deficiency that is present.

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CLINICOPATHOLOGICAL CONFERENCE

From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Departments of Pathology of the Hospital and of the School of Medicine of the University of South Dakota

John F. Barlow, M.D.*
Pathologist - Editor

B. J. Williams, M.D.**
Obstetrician - Gynecologist
Discusser

A thirty-one year old female with lower abdominal pain

CASE NO. 68-346

This 31-year old single nulliparous school teacher entered Sioux Valley Hospital for her first admission with a chief complaint of lower cramping abdominal pain for one week and four loose stools on the day of admission.

The patient had been well until one week previous when she developed lower abdominal cramping pain just prior to her menstrual period. The pain became steadily worse and was worse at night. It was accompanied by backache and increased when the patient "straightened up." There was no nausea and vomiting. The patient's periods were not usually accompanied by pain. The menarche occurred at age 13. She had regular cycles of 28 days. The flow was for 7 days and moderately heavy. There was no intermenstrual bleeding and she could recall passage of clots only once about two periods ago. There was no history of leukorrhea, burning, itching or menstrual irregularity. The patient had lost twenty-five pounds over the past three years but had had no weakness, fever, nausea, vomiting. The only irregularity of bowel habits were the loose stools on the day of admission. There was no history of dysuria, nocturia, pyuria, hematuria, frequency or urinary tract infection.

Past history and family history — The review of systems revealed a history of allergy to penicillin and a history of edema and ulceration of the vocal cord two years previously.

Physical examination revealed an asthenic young female in no acute distress — weight 129 lbs., height 5' 8", blood pressure 140/100, respirations 18, pulse 72 and regular and temperature 99. The head, eyes, ears, nose and throat were unremarkable. The examination of the heart and lungs was unremarkable. There was lower abdominal tenderness but no spasm. A hard lower abdominal midline semi-fixed mass was present. There appeared to be some fullness and thickness extending into the flanks bilaterally. Bowel sounds were normal. The liver and spleen were not palpable.

Pelvic — The hymen was intact. The cervix was nulliparous. The patient was menstruating. The adnexae were clear. The uterus was enlarged to a 26-28 week size and was very hard and somewhat tender on movement. The neurologic examination was unremarkable.

Clinical pathology data revealed hemoglobin 11.1 gms%, red count 3.66 million/mm.^{3} The hematocrit 32%, mean corpuscular hemoglobin 30 micromicrograms, mean corpuscular volume 87 cubic micra, mean corpuscular hemoglobin concentration 34%, total leukocyte count 8,200 with 78% segmented neutrophils, 1% neutrophilic bands, 16% lymphocytes, and 5% monocytes. The red cells were normochromic, normocytic. The platelets were adequate in number on smear. A urinalysis showed a yellow, slightly turbid urine — specific gravity 1.023, pH 5.0, negative for protein and glucose. There were a large amount of ketone bodies and a moderate amount of hemoglobin. There were 0-1 wbc/hpf and 120-130 rbc/hpf. A pregnancy test was interpreted as positive by both hemagglutination inhibition and latex agglutination inhibition techniques. The serology was nonreactive. An abdominal supine film showed a soft tissue pelvic mass rising to the sacral pro-

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**Obstetrician and Gynecologist, Sioux Valley Hospital, Assistant Professor of Obstetrics and Gynecology, School of Medicine, University of South Dakota.

montory. In addition, a small calcification overlying the right renal area adjacent to the right transverse process of L-2 was present.

Course — The day after admission the patient had a dilatation and curettage. The curettings were diagnosed as menstrual endometrium. The following day an operation was performed.

Dr. Buck Williams

In summary, we have a young, unmarried, apparently virginal lady whose past medical and gynecologic histories are unremarkable and who is menstruating regularly. She has now developed pain in the back and lower abdomen just before a normal period, whereas she never had pain or dysmenorrhea previously. We are not told the severity of the pain except that it was becoming worse, nor of any prescribed or self medication taken. It would also be helpful to know if the pain decreased after the onset of menses. Other factors which cloud our history are 1) Was the 25 lb. weight loss voluntary or the result of known mental or physical illness? 2) The loose stools in absence of prior G.I. upset are seen not infrequently with menstrual periods, especially accompanying dysmenorrhea. 3) We also have no specific knowledge of the social history of the patient, i.e. does she have marriage plans in the near or foreseeable future, or, if not, does she have any specific psychiatric problems which might shed light on her single status, which might perhaps affect our eventual treatment.

The physical examination seems unremarkable until we reach the abdomen and pelvis. The hard lower abdominal mass, enlarged to the size of a 6½ to 7 lunar month gestation, is stated to be tender and is confirmed to be uterus on pelvic examination. There were no other abnormalities noted. The fullness and thickness extending into the flanks is hard to evaluate, per se, and without further comment I will assume this is not evidence of ascites but due to the size of the tumor, itself.

The laboratory examinations are essentially what we would expect except for the positive pregnancy test, which stands out very conspicuously, ready to trap the discussant. The abdominal film only confirms what must have been a very conspicuous abdominal mass. No fetal skeleton was seen on X-ray—an important point.

In discussing the case as a clinician, I will rely heavily on the history and physical examination and perhaps more lightly on the laboratory evidence, unless it involves some pivotal point in differential diagnosis or unless the history seems unreliable. Since this lady is menstruating regularly, in fact having a scheduled period at the time of admission, (and being unmarried probably denies sexual exposure) I am forced to conclude that she has a uterine tumor of a less common variety than pregnancy. Although "menstruation" in the classic sense has been reported to occur in rare normal pregnancies, occasionally all the way to term, it has not, to my knowledge, been reported in cases of trophoblastic disease which tend to bleed acyclically and which are accompanied by a prior amenorrhea. Since no fetal skeleton was seen on X-ray we will presume the pregnancy test to be a false positive, perhaps measuring LH.

DIFFERENTIAL DIAGNOSIS: Thus, we conclude that the patient has a uterine tumor. I have found no specific evidence as to the type from the protocol; however, considering probabilities as to age and symptomatology, we can immediately narrow the field. First on the list is leiomyoma, which fits nicely with the protocol. This would almost certainly be of the subserous or perhaps intramural type, since submucous fibroids never attain the stated size. Also we should have had some of the characteristic abnormal bleeding from the latter tumor. We might also postulate some degeneration to account for the pain, though degeneration of leiomyomas is much more common in pregnancy. Large tumors, however, frequently undergo necrosis from outgrowing their blood supply.

If the tumor is pedunculated then torsion could account for the pain. In most instances, the uterus, itself, does not become very distorted with subserous tumor and somewhat more with intramural ones, so, at laparotomy, I would expect a large leiomyoma growing from the upper portion of a small to normal size uterus. There are several benign, rare tumors which need to be listed for completeness, but these usually cannot be differentiated until laparotomy. These include mixed mesodermal tumors, lymphangiomas, and hemangiomas of the uterus.

The question of a malignant tumor, such as one of the sarcoma group, is present; but, again, rare in this age group. If a fibroid has malignant degeneration, which occurs in four-tenths of one percent as reported by Vogt in 17,000 cases, then abnormal bleeding does not necessarily have to be present. To digress from the differential diagnosis, if this were an ovarian tumor then a very nice diagnosis which would fit the protocol is that of dysgerminoma of the ovary with an area of degeneration containing

choriocarcinoma. I once saw such a case when I was a resident.

THERAPY: I would treat this patient with a myomectomy, using the technique of Bonney, because of her age and possible desire to bear children in the future. Even if the patient has no such definite plans, several such patients have been reported to experience severe psychiatric problems if their childbearing function is ablated in the absence of malignancy at such an early age. Even in patients of this type who have carcinoma in situ, the same thinking is followed, using a cone biopsy and frequent follow ups until childbearing is no longer a consideration.

The use of a dilatation and curettage prior to laparotomy would serve, in this case, only to rule out submucous fibroids; thus, it is valuable. Certainly, however, there would be less chance of morbidity and mortality if the dilatation and curettage were performed under the same anesthetic.

PATHOLOGIC DISCUSSION

Dr. Barlow: At laparotomy a supra-cervical hysterectomy was performed. The uterus was markedly distorted by a 12.4 cm. in diameter intramural mass. The entire specimen weighed 1245 grams. On section marked red degeneration was noted (Fig. I). This was confirmed on microscopic section which showed total necrosis. (Fig. II).

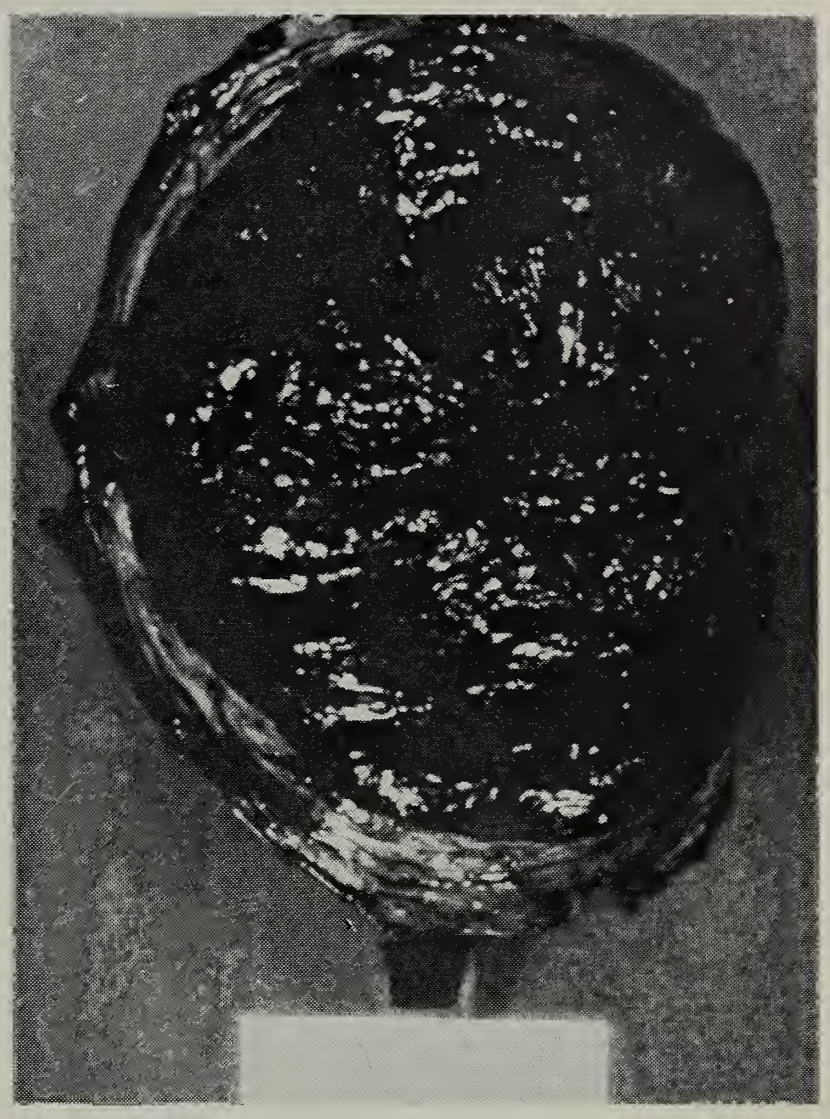
This phenomenon of carneous or red degeneration of a leiomyoma or infarction of a leiomyoma is often associated with pregnancy but can occur in any large leiomyoma. Its cause is uncertain especially in intramural tumors such as this one where twisting of the pedicle and compromise of the blood supply cannot be indicted.

Other forms of degeneration such as hyalinization, cyst formation, and calcification are more common but rarely of clinical significance. I might add that the incidence of sarcomatous degeneration in leiomyomas is probably quite low. I feel local degenerative changes in these tumors are often considered malignant by some but are not truly malignant.

Dr. Wallace A. Arneson*: I would like to make a few comments about supracervical hysterectomy. We were all taught that these should never be done. In general, I agree. I have performed many total hysterectomies and only on rare occasions have I done a supracervical procedure. One that I remember was on a very

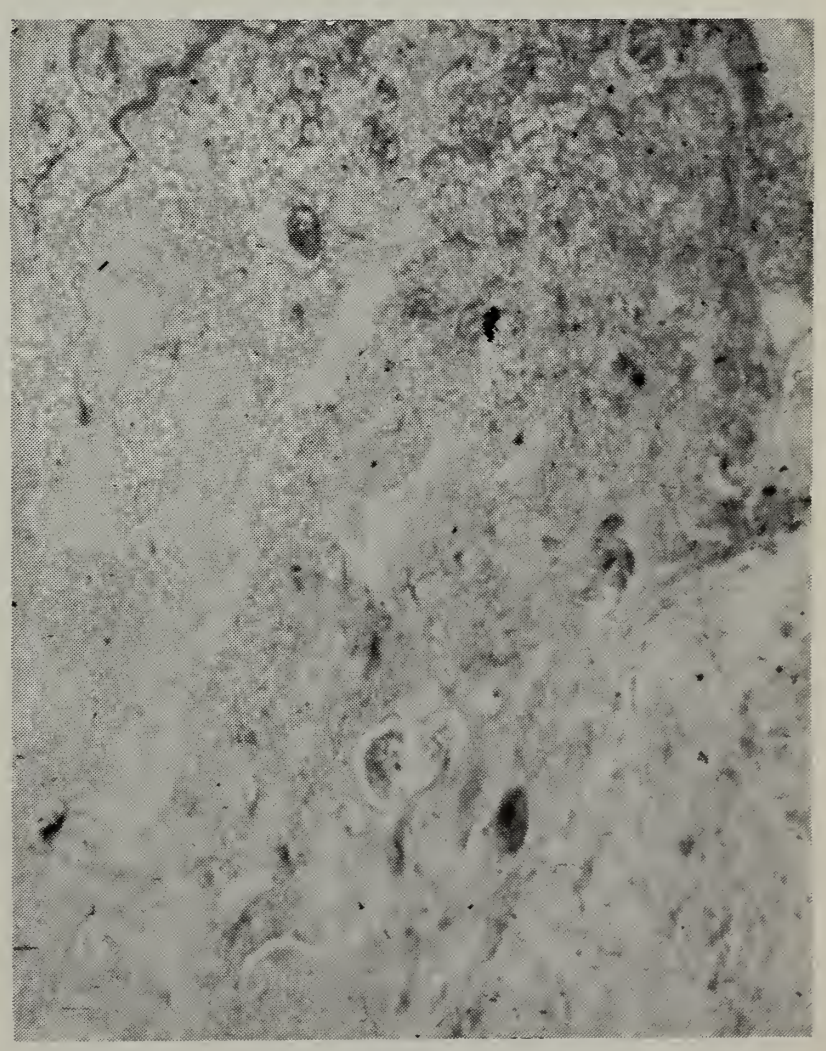
*Surgeon, Sioux Valley Hospital

Figure I.



Hemorrhagic necrosis of leiomyoma of uterus.

Figure II.



Microscopic section showing edema and loss of cellular architecture.

obese female. I felt that trying to get the cervix in this instance would have led to a very good chance of ureteral injury. There are also other mechanical problems one can get into perhaps justifying a supracervical procedure. If the patient is followed with Pap smears, there should be no further difficulties. I also might add that the ovaries were preserved here and this is very important in a young woman to prevent hormonal withdrawal symptoms.

Dr. Ortmeier:** How many supracervical hysterectomies are done at this hospital in a year?

Dr. Delwin K. Ohrt*:** I have not seen another case in the last two years.

Dr. Olson**:** I think it should be pointed out that supracervical hysterectomy is only rarely done and in this instance probably was indicated due to the huge tumor. The surgeon who performed the operation had considerable experience.

Dr. Barlow: Since a false positive pregnancy test occurred in this case, I thought a discussion of pregnancy tests was warranted.

In recent years immunologic tests for pregnancy have made a routine pregnancy test a relatively simple and reproducible procedure in medical laboratories. The problem of keeping frogs, toads and rodents is no longer an obstacle. Also, the refractory period of some animals and effects of drugs on animals is no longer a problem. Like many procedures, however, pregnancy tests by immunologic methods are not 100% reliable. False positives as well as false negatives occur. This case illustrates one of the former. Also like many laboratory tests, the procedures are deceptively simple. Inadequate knowledge of the sources of error leads to an even higher incidence of false positives and negatives than is necessary.

There are a number of pregnancy tests available. A direct agglutination latex test is available commercially but is of relatively recent origin and has not been widely used. This employs a latex particle coated with anti HCG (human chorionic gonadotropin). Agglutination of the particles occurs if HCG is present in the urine. Agglutination is a positive test. The two most commonly used tests are a latex agglutination inhibition test and a hemagglutination inhibition test. The latex test is the easiest to perform. An early morning specimen is best because the urine is more concentrated. Random urine may be used although one runs the risk of having a diluted specimen. A negative control (male urine, saline) should be run with every test and positive control should also be checked at periodic intervals. Grossly bloody urine is not suitable for examination and proteinuria can give rise to false positive results. A test for protein in the urine prior to doing the test will obviate this problem. Another precaution is that the reagents are best preserved for long periods by refrigeration but the reagents must be at room temperature before the test is performed. Low specific gravity can give a false negative due to dilution on random urine. Anti-human chorionic gonadotropin (anti-HCG) is added to the urine on a glass slide with black background. Subsequently, latex particles coated with human chorionic gonadotropin (HCG) are added. If no human chorionic gonadotropin (pregnancy hormone) is present, the anti HCG combines with the HCG and an agglutination occurs with latex. Thus agglutination constitutes a negative test. If HCG is present in the urine, it is neutralized by the anti HCG and no agglutination occurs with the latex particles.

Urine (HCG) + **Antiserum (anti HCG)**

+

(latex particle coated with HCG)

Positive
HCG antiserum is neutralized by HCG in urine. Inhibition of agglutination of sensitized latex particles then occurs.
No agglutination

Negative
If no HCG is present in urine, then antiserum will cause agglutination of sensitized latex particles.
Agglutination.

The fact that no agglutination is a positive test is often confusing since in most laboratory serological procedures, a positive test is indicated by agglutination. Therefore, it is easy to report the test just the opposite from what it should be. Miale recommends that the test be reported as "no agglutination — positive test for pregnancy" or "agglutination present — negative test for pregnancy."

The other common test employed is the hemagglutination inhibition test. Unagglutinated red cells make a distinct circle in the bottom of a test tube. For some reason when the cells agglutinate the circle widens and disappears. The same principle of inhibition applies to this test as with the latex agglutination. A positive test shows lack of agglutination and a negative test shows agglutination. In this test, a control tube

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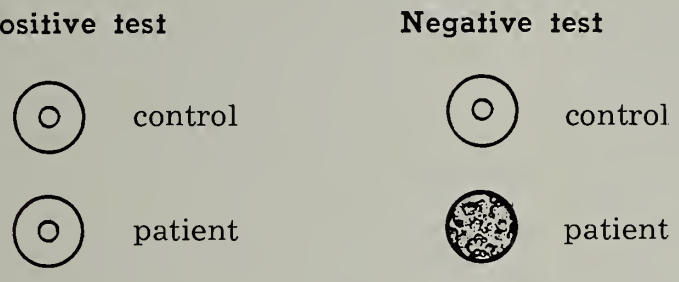
***Resident in Pathology, Sioux Valley Hospital
****General Practitioner, Sioux Valley Hospital

of HCG coated red cells is suspected in saline and shows a circle at the bottom of the tube since the cells are unagglutinated. In a positive test the test tube with the coated red cells, patient's urine (source of HCG) and anti HCG show no agglutination and hence the cells settle in a similar circle to the control. In a negative test, the test tube with the coated red cells, patient's urine (no HCG) and anti HCG are agglutinated and no ring forms similar to the control tube.



The hemagglutination inhibition test is more sensitive than the latex agglutination test and a similar hemagglutination type of test is far better for accurate quantitation but there are several disadvantages. First, the test requires filtering and dilution of the urine as well as a period of standing for two hours while the latex inhibition can be done in a few minutes. Secondly, a number of false positives occur due to human pituitary luteinizing hormone seen at the menopause. Thus, the hemagglutination inhibition test is particularly likely to give false positive results in the menopausal age group. Unfortunately, false positives can occur with either test and this case is an excellent example. The tests become positive at about 43 days after the last missed period and negative 72 hours postpartum. The hemagglutination test is even more sensitive than this and sensitivity can be increased by not diluting but this markedly increases the false positives.

I should mention a word about quantitative pregnancy tests. These can be helpful in the diagnoses of hydatidiform mole and choriocarcinoma. However, they are also elevated in twin pregnancies, polyhydramnios and erythroblastosis fetalis. They are very helpful in following the course of a hydatidiform mole or choriocarcinoma on therapy.

In closing, one might ask why use a pregnancy test other than for suspicion of an ectopic pregnancy. I think that one reason might be that there are many common medications, conditions and modes of therapy which are now known to affect the fetus in utero. There are bound to be more of these uncovered as we learn more about fetology. If we do not know a woman is pregnant, certain drugs or therapies might be harmful to the infant and perhaps might not be given if the patient's condition were known.

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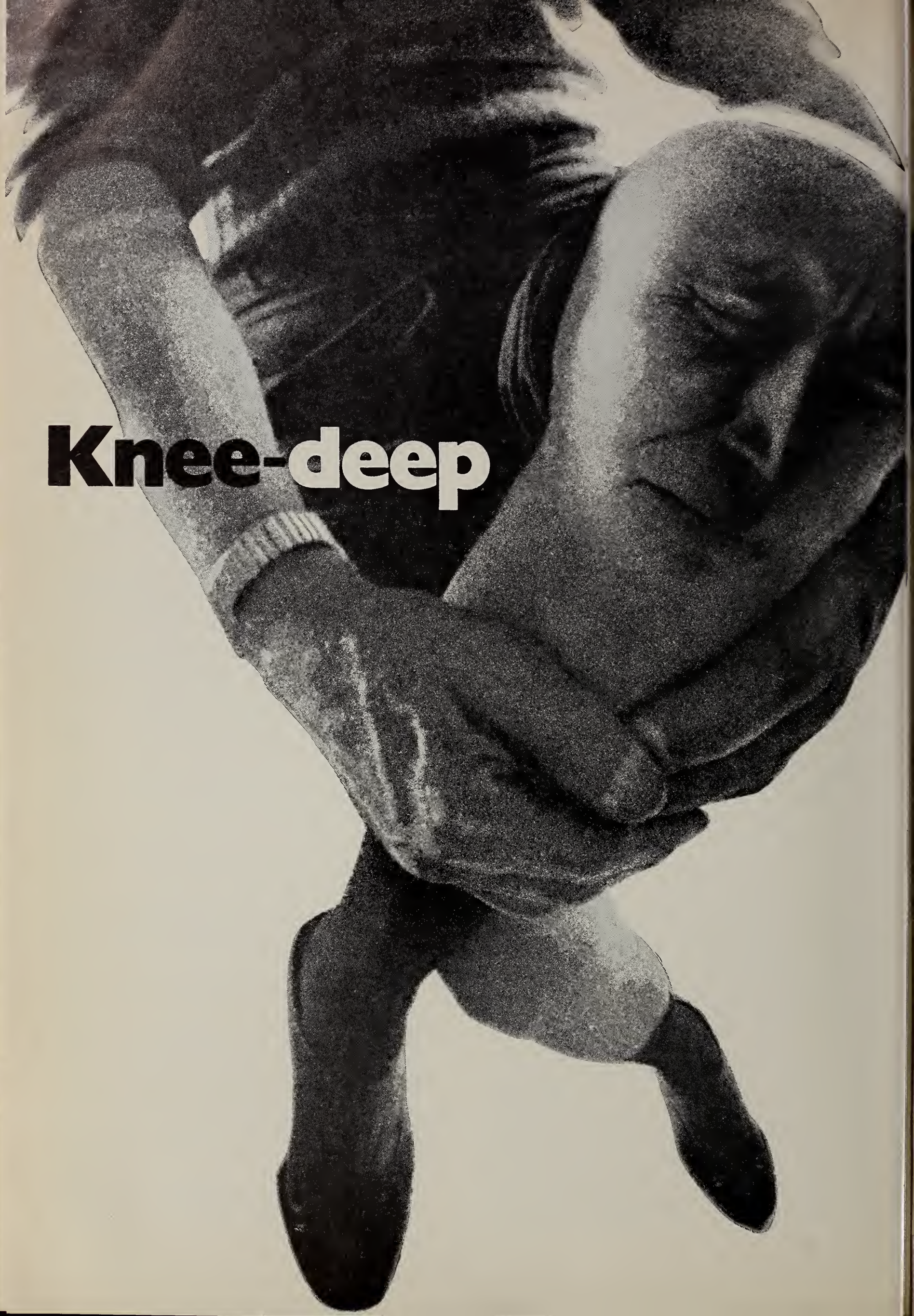
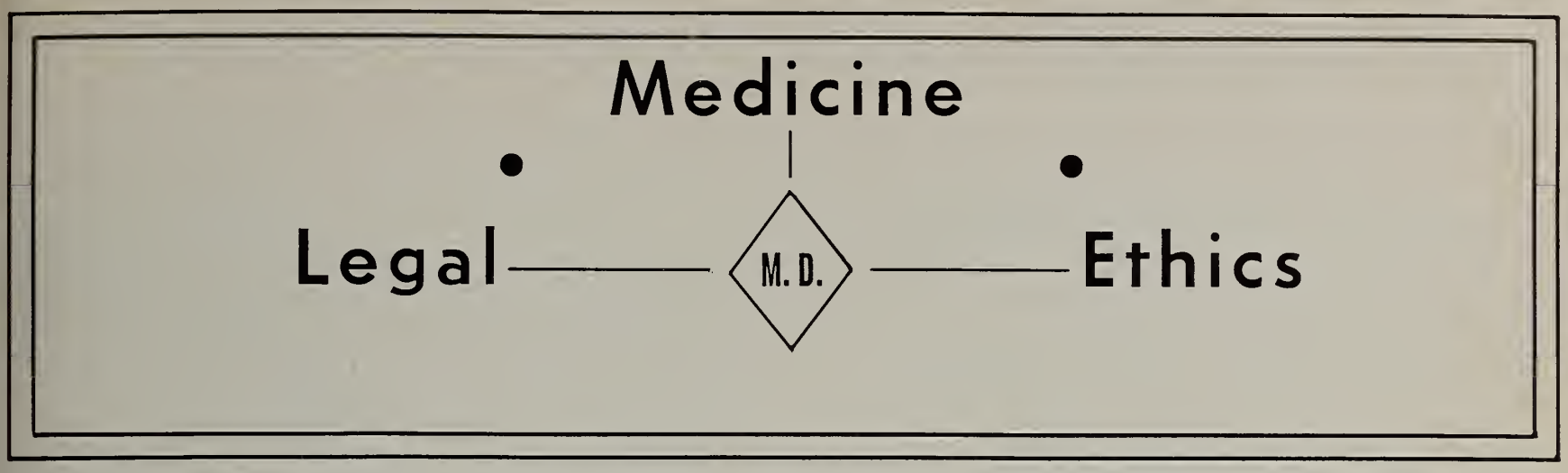

Knee-deep



The Council of the South Dakota State Medical Association discussed the use of credit cards by doctors in South Dakota at the meeting held on September 28. The Council action is as follows: That the physicians should decide for themselves whether or not they wish to accept credit cards.

The following guidelines have been issued by the Judicial Council of the American Medical Association and are published here for your information.

CREDIT CARD GUIDELINES ISSUED

Questions continue to arise regarding the acceptance by physicians of bank cards as the means for patients to pay their medical bills.

The use of bank cards has been approved by some local medical societies, while certain credit cards have not been approved.

The Judicial Council of the American Medical Association has recommended the implementation of three principles as guidance for medical societies considering approval of the use of bank credit cards for payment.

Viewed With Reserve: The Judicial Council has said that the use of bank cards in financing medical fees must be viewed with reserve at the present stage of the bank card development. The council did not directly approve or reject use of the cards.

The Judicial Council, in its three principles for use of bank cards, includes a requirement that the county medical society must be satisfied as to the financial and professional integrity of the plan.

The council suggests that the society negotiate with the plan sponsors to insure that service charges to the physician are reasonable, and it should insist that the plan be open to all physicians on the same terms. It also advises that the listing of physicians in directories of a plan's participating members is contrary to the ethics of the medical profession.

No Fee Increase: Secondly, the principles state that the individual physician may not increase his fee for medical service because of his participation, and he may not use the plan to solicit patients.

The council says further that the physician may not encourage patients to use the plan and his position must be that he accepts the plan as a convenience to patients who desire to use it. Plaques or other devices in his office indicating his participation should be kept to a discreet and dignified minimum, the council said.

Thirdly, the council said the use of a bank card in connection with the payment of larger fees — which might normally be paid to the physician in installments — is not to be encouraged.

"All members of the Association are expected to continue the traditional practice of permitting patients of limited means to pay relatively large fees in installments without interest or carrying charges," the statement said.

Out of respect for the dignity and traditions of the medical profession, the physician may not relieve himself of his obligations "to render service to humanity, reward or financial gain being a subordinate consideration."

Not a Substitute: The Judicial Council noted if the bank card were merely a substitute for cash or check in payment of bills, little or no problem would be presented to the physicians regarding their use, and they would be merely a newly adopted medium of exchange.

Bank cards, however, serve a two-fold function —that of convenience and substitute for currency, and a financing mechanism.

"Consequently," the council said, "their indiscriminate use, especially the financing of larger medical bills through banks, could result in additional cost to patients."

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THE MONTH IN WASHINGTON

"Improving the quality of life in this country requires that far greater national effort be devoted to reducing the incidence of preventable diseases, accidents and premature death."

This was the theme of a proposal to President Johnson to establish a Commission on Disease Prevention and Health Protection, appointed by the President, to make recommendations within a year.

The President was told that "to continue the present national emphasis upon treatment and after-the-fact remedies, as opposed to prevention, must be regarded as a failure of the health professions to adequately protect the public."

Said the plan's sponsors, headed by Sen. Warren Magnuson (D., Wash.), Chairman of the Senate Commerce Committee:

"Many of the diseases currently prevalent can be prevented entirely. Others can be detected and cured in the early stages. In some cases, it is simply a question of instilling awareness, recognizing symptoms or the importance of diet, and exercise. Technical personnel and automated laboratory and computerized recording procedures can utilize known techniques to operate comprehensive screening programs. These prevention and early detection programs can save money and conserve scarce physician time. People can be educated to expect health rather than to tolerate illness, to demand prevention rather than to admire belated treatment."

The statement continued:

"Benefits can be derived through legislation. Others will accrue through public and professional education. Still further benefits would come from financial support for special professional and non-professional training in the practice of preventive medicine. The following are just a few examples of things that can be done now. For example, we now have the authority to clean the polluted air over most of the major urban areas of this country.

"Other approaches include new methods of paying for and organizing health services. We, at present invest huge sums in medical care, through public and private support. The same means of coverage, however, such as Title VXIII, do not provide for 'health protection': there is no payment for periodic health appraisal on an out-of-hospital basis, with provision for follow-up care. This should include individual and group counseling services necessary for health maintenance, given by a physician or other health professional."

The Magnuson group said that "despite the convincing case for prevention, about two-thirds of all medical schools do not have departments of preventive medicine. This lack is appalling. We should at once encourage the establishment, or strengthening, of these departments in all medical schools, and emphasize a more realistic training program for the physicians of tomorrow."

* * * *

The 1968 supplemental report on Smoking and Health of the Surgeon General of the Public Health Service reaffirmed that cigarette smoking is a health hazard.

The report was sent to Congress the same day as a Federal Trade Commission recommendation that cigarette advertising be banned from television and radio.

Highlights of the smoking report were:

—New evidence indicating that the life expectancy among young men is reduced by an average of eight years in "heavy" cigarette smokers, those smoking over two packs a day, and an average of four years in "light" cigarette smokers, those smoking less than one half pack per day.

—Cigarette smoking can contribute to the development of cardiovascular disease and particularly to death from coronary heart disease.

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Some of the harmful cardiovascular effects appear to be reversible after cessation of cigarette smoking.

—New evidence that the previous finding that cigarette smoking is the most important cause of chronic bronchopulmonary disease in the United States.

—Additional evidence that cigarette smoking is a main cause of lung cancer in men and is causally related to lung cancer in women.

* * * *

Dr. Robert Q. Marston was appointed to succeed Dr. James A. Shannon as director of the National Institutes of Health, effective Sept. 1.

Dr. Marston, 45, had been administrator of the NIH's Health Services and Mental Health Administration since April 1. He went with the NIH in 1966 as the first administrator of the Heart Disease, Cancer and Stroke Regional Medical Programs. Before that, he had been vice chancellor and dean of the University of Mississippi Medical School.

Dr. Marston, in accepting his new post, listed knowledge first and then money and manpower as the key factors in future improvements in the health of Americans.

"The ultimate constraint of our ability to effect the health of the people is neither dollars nor manpower, but the knowledge gained through research," he said.

"A major problem of the future will be to insure institutional stability, during times of manpower and fiscal shortages on which future (medical research) success is dependent."

In appointing Dr. Marston, President Johnson said the new NIH director faces a "staggering job" because not only the United States, but the entire world needs "rescue from death and disability that medical research promises."

Johnson expressed the hope that Dr. Marston's leadership in research would play an important role in an effort to reduce the death rate from serious diseases by 10 per cent by 1976.

* * * *

The John E. Fogarty International Center for Advanced Study in the Health Sciences has been established in memory of the late Rhode Island congressman who was a leader in health legislation for many years. Congress provided an initial appropriation of $500,000 for the new center to start operation in the National Institutes of Health until its own building is completed. The center's first director is Dr. Milo D. Leavitt, Jr., who had been director of the NIH Office of Program Planning.

* * * *

U. S. Attorney General Ramsey Clark appealed for broad support and cooperation of the public in enforcement of the laws against marijuana and LSD. Otherwise, he said, the law cannot be enforced effectively. Enforcement must be accompanied by research and education, he said and added: "The youth of today are extremely sophisticated about drugs, and they are also highly selective of the wave lengths they tune in on — the channels of information they select."

* * * *

President Johnson named a special committee to develop a five-year program for providing more effective birth control. The study committee will be headed by HEW secretary Wilbur J. Cohen. Mrs. John D. Rockefeller, III, N. Y., will serve as his co-chairman. An official said one matter to be studied would be the fact that present methods of contraception are not adequate. He said the so-called "pill" is too expensive for widespread use in some areas and it was difficult to educate illiterate people in its use.

* * * *

The National Institutes of Health has asked processors of whole pooled human blood plasma to halt its interstate shipment because the substance has been causing hepatitis, an infection of the liver, in one out of 10 patients receiving transfusions. The move is expected to halt use of most such plasma of which about 300,000 pints are given annually to about 100,000 patients in the United States. The agency acted on a report issued in April by the National Research Council saying use of whole pooled plasma should be discouraged and even discontinued because of the hepatitis danger.

* * * *

The Senate Health Subcommittee was told that the nation talks more and does less about its 5 million alcoholics than any of its other health problems. Michael Gorman, a spokesman for the National Council on Alcoholism, said that the losses from alcoholism are now running about $2 billion a year. Dr. Philip R. Lee, Health, Education and Welfare Assistant Secretary, supported Gorman. According to Dr. Lee, alcoholism was an "enormous economic liability to the nation" in terms of job absenteeism, lowered productivity, and medical insurance expenses.

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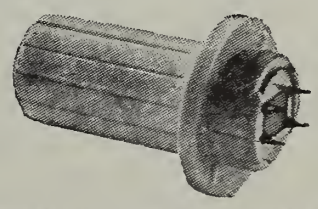

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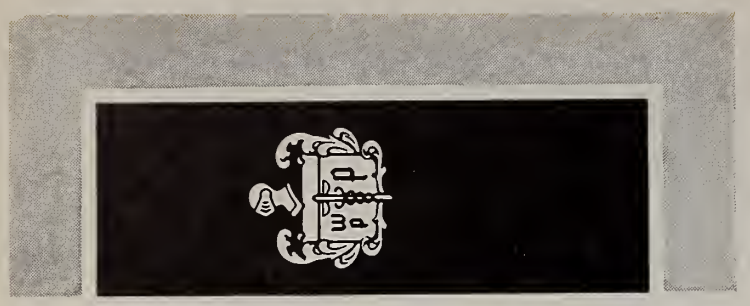

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HEALTH AND WELFARE COMMITTEE
Legislative Research Council

The following Minutes, of the LRC Committee on Health and Welfare, pertaining to medical education and physician shortage, are printed in TOTAL, so that all may be aware of the recommendations of the Committee.

September 11-12, 1968

The third meeting of the Health and Welfare Committee was called to order at 9:15 a.m., Wednesday, September 11, 1968 by Representative James Rothstein, Chairman, in the Council Conference Room at the State Capitol Building. The roll was called and the following members being present, a quorum was declared: Representatives Rothstein, E. Anderson, Bibby, Bliss, Graff, Hart, Scribner, Stoddard, Swenson, Swisher, Whitehead, Huber, Mehlhaff and Senators Fischer and Arthur L. Jones. Mr. Schmidt indicated that Representatives Larkin and Mills had corresponded with the staff and indicated their inability to be at the meeting.

The following guests were present during all or a part of the meeting:

Betty Simon, Oahe Manor Bookkeeper, Gettysburg, S. Dak.

Peggy Nauman, Oahe Manor Administrator, Gettysburg, S. Dak.

Rev. Orland Sloat, Pastor, United Methodist Church, Selby, S. Dak.

C. W. Renz, Attorney at Law, Herreid, S. Dak.

Melvin J. Rieker, Mayor, Herreid, S. Dak.

Calvin Ochsner, Board Member, Herreid, S. Dak.

Fred Holscher, Faulk Co. Memorial Hospital, Faulkton, S. Dak.

Donald H. Gerdes, Faulk Co. Auditor, Faulkton, S. Dak.

James L. Wagner, Hospital Administrator, Faulkton, S. Dak.

Roscoe C. Dean, M.D., S. Dak. Medical Assoc., Wessington Springs, S. Dak.

Gary Drewes, UPI, Pierre, S. Dak.

Bruce Warren, Nursing Home Association, Yankton, S. Dak.

Bob Molgard, Nursing Home Association, Sioux Falls, S. Dak.

Mrs. Ulberg, Nursing Home Association, Sioux Falls, S. Dak.

Attorney Tom Adams, Nursing Home Association, Pierre, S. Dak.

Earle Crissman, Ipswich Community Hospital, Ipswich, S. Dak.

G. J. Bloemendaal, M.D., Ipswich, S. Dak.

John T. Elston, M.D., Rapid City, S. Dak.

Richard C. Erickson, S. Dak. Medical Assoc., Sioux Falls, S. Dak.

George W. Knabe, M.D., Dean, Medical School, USD, Vermillion, S. Dak.

Richard Gibb, Commissioner of Higher Education, Pierre, S. Dak.

E. Q. Moulton, President, University of S. Dak., Vermillion, S. Dak.

Lyle E. Osberg, S. D. Department of Health, Pierre, S. Dak.

L. Ray Scott, State Department of Health, Pierre, S. Dak.

S. J. Christensen, D.C., Chiropractor, Madison, S. Dak.

Gary Hansen, Associated Press, Pierre, S. Dak.

H. W. Ortman, State Board of Chiropractic Examiners, Canistota, S. Dak.

John H. Zimmer, Basic Science Attorney, Parker, S. Dak.
Harold S. Milner, Public Welfare Department, Pierre, S. Dak.
Bob Slocum, Welfare Department, Pierre, S. Dak.
Paul H. Koren, M.D., Welfare Department, Pierre, S. Dak.
Thomas B. Schultz, Department of Health, Pierre, S. Dak.
Floyd Wilkerson, Department of Public Welfare, Pierre, S. Dak.
J. K. Russell, Department of Welfare, Pierre, S. Dak.
L. L. Massa, D.O., S. D. Osteopathic Association, Sturgis, S. Dak.

Staff members present were Mr. Schmidt, Director, and Mr. Sell, Fiscal Analyst, with the latter acting as Secretary.

Representative Rothstein thanked those in attendance for their interest in the work of the Health and Welfare Committee. He said that he was certain everyone would be given an opportunity to be heard and that the recommendations of the Committee would be made with the interest of all in mind.

Representative Bliss moved, seconded by Representative Graff, that the minutes of the second meeting of the Health and Welfare Committee be approved as previously submitted. Motion carried.

Mr. Schmidt read the correspondence which had been received in the Council office concerning the doctor shortage in the state and the various alternative approaches to solution of the problem and also correspondence relating to the nursing home part of the committee assignment. A copy of all correspondence is on file and is available for review in the Council office.

Chairman Rothstein indicated that the Committee would proceed with testimony concerning the medical and osteopathic physician shortage in South Dakota. Mr. Rothstein asked Mr. Erickson of the South Dakota Medical Association to proceed with testimony. Mr. Erickson deferred by introducing Dr. John Elston, President of the South Dakota Medical Association.

Dr. Elston indicated that the problem facing the state was one to which there was no easy solution. He said that the days of the small one doctor office are largely past and that other means would have to be found to provide medical care for rural South Dakota. He said that the South Dakota situation is not unique in that the surrounding states have the same kind of problem and in some cases an even greater problem.

Dr. Elston indicated that the two year medical school is in serious trouble. He said that the funding needed to be greatly increased and that some assurance should be made relative to direct budgeting. Dr. Elston said that the medical school should serve as the "medical center" for the state and in that way could serve as the center for studies and planning for future distribution of health personnel in South Dakota. Also, he said, the state should do everything in its power to seek out federal funds under the Manpower Act for education of medical and paramedical personnel.

Dr. Elston said that the legislature should give consideration to the implementation of the direct loan program for medical students in the amount of $1500 to $2000 per year. He said that some forgiveness or pay back feature should be written into such a loan program.

Dr. Elston also warned against lowering the admission standards for a license to practice in South Dakota as it relates to the Basic Science Law. He said that this law does prevent a large number of unqualified doctors from entering practice in South Dakota. He said, however, that the basic science examination does not eliminate individuals who are qualified and who do take the South Dakota Medical examination. He said that the latest results indicated that of 21 examinees only 2 failed the South Dakota Medical Boards. He said that this record was basically somewhat better than had been experienced in some of the neighboring states. He said that of the 19 individuals who passed the South Dakota Medical Board examinations only 5 stayed in South Dakota. Consequently, 14 doctors used South Dakota for reciprocity privileges to practice in other states.

Dr. Roscoe Dean of Wessington Springs said that rural medicine is basically rural hospitalization. He said that "in a few years there will be no more Wessington Springs hospitals in South Dakota. We must improve the hospitals that we do have in the rural areas through providing better medical service, and the only way to provide better medical service would be to have hospitals only in the service center communities in the state and to provide medical services to the other areas through ambulance facilities and personnel."

Representative Huber asked if the elimination of the Basic Science examination with some other supplement would be lowering medical standards for South Dakota. The medical people in attendance seemed to feel that it would be much more difficult for the state to keep out the unqualified individuals if it were not for the Basic Science examinations.

Representative Bibby asked if there was currently any voluntary loan program by a community rather than the state. Dean Knabe answered that there was none currently in South Dakota. He said that individual doctors have loaned money to students with the understanding that these students return to the area to practice.

Dr. Knabe, Dean of the University of South Dakota Medical School, presented his remarks on the doctor shortage in South Dakota. Dean Knabe said that the shortage is obvious; the 457 actively practicing physicians in South Dakota gives us one of the lowest physician-population ratios in the United States. He said that the rural problem was even worse than the state as a whole.

Dr. Knabe said that the magnitude of the problem is only exceeded by the suggestions to solve it.

Dr. Knabe indicated that statistics show that generally doctors tend to practice in a region where they take internship or residency work and that this was a more important factor than the location of the school in which they received their education.

Dr. Knabe said he envisioned the Medical School as taking a more responsive role in coordinating studies and planning for statewide and area-wide health needs and services. Also he said the Medical School should be more actively involved in seeing to it that modern techniques of medicine are practiced and used in South Dakota.

One of the more serious problems at the University of South Dakota Medical School, Dr. Knabe said, is the lack of sufficient funds to do the job with which they are charged. He said that staff salaries are critically below the average in the region and that fringe benefits need considerable strengthening in order to be competitive with other medical schools.

Representative Swenson asked for some discussion of the criteria used for admittance to the Medical School. Dr. Knabe answered that more students want to go than are admitted to the University. He said that because we have a two year school the standards for admittance must be kept higher so that the students can subsequently be transferred into the third and fourth year elsewhere. He said that experiences indicated that the marginal student would have difficulty transferring to another school and the schools

which had poor experience with South Dakota youngsters would not take students in the future. However, Dr. Knabe said that in order to assure that the student is given every benefit in evaluating his potential ability to become a medical doctor the Medical School must do a better job in screening students.

Dr. Knabe said the 1968 class comprised 49 students and that the addition to the medical school currently under construction would increase this to 54 and possibly 60 in the near future. He said that currently 15 to 20 percent of the enrollment was from out of state and that this would have to be maintained in order to assure placement for our students in the third and fourth year.

Mr. Erickson, Executive Secretary of South Dakota Medical Association, summarized for the Committee the position of the Medical Association as it relates to encouraging doctors to practice in South Dakota. He said that the Association attempts to meet with all new interns as they come into South Dakota; the Association provides them free subscriptions to the South Dakota Medical Journal; the Association works with the interns to generate interest in South Dakota communities; and, the Association encourages the intern to take the necessary examinations during his internship so they are ready to practice upon completion of the internship.

Mr. Erickson said that currently only two hospitals in South Dakota, both in Sioux Falls, have an internship program which can handle 12 interns. He said that currently only 8 of these positions are filled. The reason for the vacancies, he said, is partly due to the military service requirements.

Upon reconvening at 1:30 p.m., Chairman Rothstein asked Dr. Moulton, President of the University of South Dakota, to discuss the separate budget concept for the Medical School.

Dr. Moulton said that he was attempting to keep a balanced university. In this context he was cognizant of the Medical School needs but that to overemphasize this program at the expense of others would only be detrimental to the total university program. He said he had mixed emotions about separate budgeting. Rather, Dr. Moulton said, he would propose a two to three year plan of a "new plateau" for support of medicine in South Dakota and as a part of the University budget.

Chairman Rothstein asked Dr. Richard Gibb, Commissioner of Higher Education, for his comments relative to the Medical School situation. Dr. Gibb indicated that he had a deep concern for all phases of health services in South Dakota. He said that he had recently made some comparisons of the Medical School budget and found that it had increased 48% since 1964 but that due to the tremendous inflationary pressures particularly in this area this was not as good as it sounded. Dr. Gibb stated that he preferred that the School of Medicine not be budgeted separately but that a recognition be given to the special needs of the Medical School for an increase in their budget as a part of the total University budget and that a study proceed on the feasibility of eventual budget separation.

Mr. Erickson said that the South Dakota Medical Association has proposed the separate budget concept as a way of strengthening the image of the Medical School and is committed, as an Association, to this concept.

Chairman Rothstein next called on Mr. John Zimmer, legal counsel for the Basic Science Board.

Mr. Zimmer gave a brief background of the history of the Basic Science Board, its purpose and function. He said that one good feature of the Board was that since 1939 the medical, osteopathic and chiropractic professions have been working together through the Basic Science Board. Mr. Zimmer also said that the Board has always been progressive and cooperative and that the support for the Board has come from the members of the medical professions within the state.

Mr. Zimmer indicated that 26 states currently have a Basic Science Board. South Dakota has reciprocity with those 26 states and also with the national examining boards of the medical professions involved. He said that the existence of a Basic Science Board very definitely is a controlling force against "quackery" operating in South Dakota. He said that, since the Basic Science law provides for examination for persons dealing in the healing arts, the Basic Science Board is able to prosecute individuals who do not necessarily practice medicine but are practicing some form of healing art. This provision, Mr. Zimmer said, puts the state in a very strong position in keeping out and controlling "quackery." He said that this does not prevent legitimate doctors from coming into the state. In fact, he said, the opposite is true since the doctors who are interested in practicing in South Dakota are assured that they will not be faced with unfair competition from individuals not involved in a legitimate medical practice.

Mr. C. W. Renz, legal counsel from Herreid, South Dakota raised the question of whether or not there was a better way to control quackery than the Basic Science Law. He said that states like Minnesota, North Dakota, Nebraska, Wyoming, New York and California have no Basic Science law and apparently are not having any great problems with quackery. Representatives from the Herreid community indicated that a majority of the doctors they have visited with concerning practice in the local community either want the availability of a large hospital or are not interested in taking the basic science examination.

Mr. Zimmer said that the prairie states without basic science examinations have the same problem as South Dakota in attracting medical doctors to the small communities.

Dr. Elston indicated that in the states without a basic science law the medical examination does include the basic science requirements. Therefore, those doctors who do not have a valid license must take the basic science test in any event. Also, Dr. Elston said, states without a basic science law have no way of keeping out the nonlegitimate practice of the healing arts. It is very difficult to prosecute these individuals since they do not purport to be practicing medicine, Dr. Elston said.

Mr. Erickson explained that the basic science examinations really only applied to doctors coming in under the immigration quota or for doctors who had been practicing prior to the implementation of the National Examining Boards in the particular medical field involved.

A number of committee members and guests indicated that more help was needed on referrals and recruitment of doctors who may desire to locate in South Dakota. Suggestions were made that some way be devised such as IDEA for making contact with prospective doctors.

Chairman Rothstein summarized the concern of the legislature in this area and promised that the Committee would pursue this subject to determine the alternatives available to the Committee.

Chairman Rothstein asked Mr. Schmidt to review for the committee the possible considerations available to it relative to the physician shortage assignment. Mr. Schmidt briefly discussed several areas of consideration for the committee and commented that these included all points raised before the group by the persons testifying, as well as those covered in the staff effort.

The committee first reviewed the matter of a separate budget, apart from that of the University proper, for the medical school. Based on the

testimony of President Moulton and Dr. Richard Gibb, the new Commissioner of Higher Education, the committee felt that there had been a significant commitment made by these gentlemen to the separate consideration of the medical school's needs and that a separate budget was not necessary at this time. However, the committee did not preclude the feasibility of such action in the future if justified and. by consensus, agreed that this matter should be carefully followed during the next session.

The committee carefully reviewed the medical school fiscal information as presented by Dean Knabe and the other persons who offered testimony.

Representative Huber moved, seconded by Representative Swenson, that the Committee on Health and Welfare recognizes and is deeply concerned about the immediate need to commit substantially increased financial assistance to the University of South Dakota Medical School and, therefore, strongly urges and recommends that the president of the University of South Dakota, the South Dakota Board of Regents, the State Budget Board and the 1969 Legislature through its appropriations committee give this need the greatest consideration and provide the necessary budget recommendations and funding to strengthen and improve the Medical School Program. Motion carried.

Although feeling that there may be some merit for further study, it was the feeling of the majority of the committee that it could not at this time recommend legislation concerned with the "medical center" concept for the medical school. It should be noted that there was no particular objection to this proposal, except that the committee did not have the time to fully develop its implications.

Next for discussion was the proposal for the development of new programs for the training of paramedical personnel.

Representative Scribner moved, seconded by Senator Fischer, that the Committee on Health and Welfare recommend that the Dean of the South Dakota Medical School and the President of the University of South Dakota carefully review the development of new programs either within the Medical School or the University proper, or jointly, for the education and training of paramedical or medical technical personnel with the limited or auxiliary capability of effectively providing services for emergency medical cases in the rural areas of the State not served by physicians. Motion carried.

The intent of the foregoing action was to endorse the concept of such programs with the hope that their development would be pursued by the responsible professionals and educators of the medical profession.

Attention was focused on the trend within the medical profession towards increased specialization of practice as it relates to the needs of the state. Although the great need of specialized practice was most clearly recognized, as well as the benefits which have resulted to society therefrom, there was a feeling that the "family" or general practitioner was still in demand. Until such time as the specialty group practices could adequately serve all areas of the state, many members of the committee felt that there was a responsibility to encourage and develop an awareness of this need.

Representative Bliss moved, seconded by Representative Bibby, that the Committee on Health and Welfare recommends that the University of South Dakota Medical School, in cooperation with the State Medical Association, attempt to encourage and develop incentives for medical students to enter into the generalized, as well as the specialized, practice of medicine in recognition of the over-all and immediately foreseeable needs of this State for Medical Services. Motion carried.

In light of the testimony before the committee of the evolving concepts of medical education throughout the nation, the members discussed the future of the present two-year medical program and the need to strengthen and improve it to insure the placement of its students in the best of the four-year schools. Continued, sound relationships and guarantees for its status were of great concern.

Representative Mehlhaff moved, seconded by Representative Stoddard, that the Committee on Health and Welfare recommends that the University of South Dakota Medical School carefully examine and keep pace with national trends in curriculum development and the evolving concepts of Medical Education so as to assure and secure a sound program. Motion carried.

Although no significant testimony was received by the committee on the subject of admissions standards, and although it had not carefully examined present or contemplated policies of the South Dakota Medical School, several members of the body felt that this matter should be called to the attention of the profession and the school so that there could be a review made.

Representative Scribner moved, seconded by Representative Bliss, that the committee on Health and Welfare recommends that the University of South Dakota Medical School, in conjunction with the State Medical Association, review existing standards and policies relating to admission to the Medical School to insure that the greatest interests of the State and the individual applicants are protected and that, if necessary and desirable upon the consideration of all factors, appropriate changes be made. Motion carried.

Chairman Rothstein pointed out, it being agreed to by the committee, that the above recommendation was not meant to be either a criticism of the existing policies, but rather a statement of concern in view of certain limited statements made to the committee. The position is taken, he said, with the expectation that a review could be made since the committee did not have the time to do so. It is in the public interest that such an examination should be conducted in depth on a periodic basis, although it is recognized that there is some continuing analysis by those concerned.

The scholarship and loan programs were brought to the committee's attention. After extensive discussion, there was a unanimous feeling that this type of program would be of value to the state. Mr. Schmidt mentioned that the LRC interim study Committee on Education, chaired by Senator Frank Gibbs, was also reviewing similar programs for veterinary and dental students and would be meeting next in October. It was felt that these programs should be coordinated, and if the Education committee endorsed programs in the other fields, it may be desirable to present all of them to the legislature in one bill.

Representative Swisher moved, seconded by Representative Bibby, that the Committee on Health and Welfare recommends that the 1969 Legislature enact a Scholarship Loan Program for resident students studying to become Medical or Osteopathic Physicians and that the Loan contain provisions of forgiveness of repayment for persons who return to South Dakota to practice their professions. Motion carried.

The committee asked that its intent be recorded to the effect that it did not include any dollar amount in the above recommendation so that this program might be coordinated with any which may be recommended by the interim study Committee on Education relating to students of dentistry and veterinary medicine.

The small community problem was discussed in depth by the committee. It was felt that local initia-

tive and incentive should be given recognition. Examples of local effort were discussed where physician needs were met through sponsorship of local students attending medical school through financial help. It was recognized that, probably more than at any other time, the medical student needs assistance at the internship or residency level of his education. Although attracting doctors to smaller communities is known to be most difficult due to many factors, nevertheless it was felt that they should pursue every possible approach.

Representative Bliss moved, seconded by Representative Huber, that the Committee on Health and Welfare encourages the smaller communities of the State in need of physician services to utilize local initiative through creative approaches to their problem, including the possibility of subsidizing medical students, particularly local young people, at the internship and residency level of their training as a possible means of attracting them. Motion carried.

The many studies and possibilities of interstate cooperation in meeting the needs for health manpower, including physicians, were discussed at length. These included, for example, the Four-State Legislative Conference (Montana, North Dakota, South Dakota and Wyoming) proposal; the University of Minnesota and new Minnesota school proposals; the University of Nebraska affiliation; the Regional Medical School concept as engendered in the study being conducted at the University of South Dakota; interstate student exchanges, and several others.

Representative Bibby moved, seconded by Representative Mehlhaff, that the Committee on Health and Welfare recommends that the South Dakota Board of Regents include in its budget a request for funds sufficient to undertake a comprehensive study of all the ways and means of providing a Four-Year Medical Education to South Dakota resident students through interstate efforts including, but not limited to, multi-state compacts such as are used in other regions of the United States; interstate student exchange agreements by and between South Dakota and other selected individual states; financing arrangements by contract with the medical schools of other states; joint interstate financing proposals for the construction and equipping of a Medical School such as that being discussed by the Four-State Legislative conference; and, the evolving concepts of Medical Education such as the "School Without Walls" and others which might be applicable to the existing Two-Year Program at Vermillion, and that it report its findings to the South Dakota Legislature with its recommendations for action. Motion carried.

It was felt that since the Board of Regents, more than likely, would be responsible for the administration of any major program developed along the lines of those covered by the preceding motion, it should be charged with the duty of making such a study at this time in light of the contemporary interest in this subject in several of our surrounding states and the states of this region. Timeliness was felt by the committee to be of the essence.

Being aware of the great problem now being faced by many municipalities in the state in furnishing adequate ambulance service, and also having been briefed on the Nebraska and New York utilization of helicopters in providing emergency medical service to areas remote from medical centers, the committee felt that the development of a study of ambulance service should be continued.

Representative Scribner moved, seconded by Senator Fischer, that the Committee on Health and Welfare recommends that the 1970 LRC executive board authorize a comprehensive study of ambulance services, including the utilization of helicopters and other transportation facilities, as well as the training of personnel, to meet the over-all needs of the state. Motion carried.

Although the committee has the greatest confidence in the abilities and capacities of the staff of the medical school and the university, it was brought out that it might be desirable to have a consultant review the reasonably current and the long-range needs of the medical school. It was pointed out that the current staff would have difficulty finding the time and the resources to fully develop such an undertaking and that, in addition, the visiting accreditation teams do not make such an in-depth analysis. However, it was recognized that the existing personnel could most ably prepare for the immediate needs through regular budget channels.

Representative Bliss moved, seconded by Representative Swenson, that the Committee on Health and Welfare recommends that the Medical School and the Budgetary Authorities give consideration to including in the budget request of the Medical School funds sufficient to provide consultant services to review both the short and long term requirements of the school to meet the Health Education and Health Care Needs of the State. Motion carried.

It was felt that such a study could establish the objectives for an orderly funding of the needs of the school.

All aspects of the testimony concerning modifications to the basic sciences and licensure statutes of the state were covered by the committee.

Representative Mehlhaff moved, seconded by Representative Stoddard, that the Committee on Health and Welfare recommends that no changes to made to the existing Basic Sciences and Medical Licensure Statutes of the State which would in any way be detrimental to their underlying policies and the general welfare. Motion carried.

The emphasis by Congress on funding research, as opposed to educational programs in medical schools was discussed at some length. It was the consensus that this philosophy should be carefully examined by the Congress in light of the national need for the education of physicians. It being understood that the research effort is, indeed, essential but that, nevertheless, increased emphasis should be given to the academic programs.

Representative Scribner moved, seconded by Representative Stoddard, that the Committee on Health and Welfare recommend that Congress be petitioned by Legislative Resolution to provide increased attention to the needs of Medical Education as they relate to the national shortage of physicians. Motion carried.

Chairman Rothstein commended the committee for its harmonious and conscientious work and expressed confidence that its efforts would be carried forward in the legislative session.

Representative Bliss moved, seconded by Representative Mehlhaff, that the Committee on Health and Welfare having completed its 1968 interim study work adjourn. Motion carried.

The Committee adjourned at 3:30 p.m., September 12, 1968.

The Division of Maternal and Child Health of the University of California School of Public Health at Berkeley announces the following postgraduate programs for pediatricians. obstetricians, and other physicians interested in receiving training in the field of Maternal and Child Health. These programs all lead to the degree of Master of Public Health. Tax-exempt fellowship support is available.

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The Multipally Handicapped and Mentally Retarded Child. A 21-month academic and clinical program in planning, organizing and operating community services for children with multiple handicaps, including mental retardation. This program is primarily for Board-certified or Board-eligible pediatricians, or for physicians on the staff of institutions for the mentally retarded or handicapped children.

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Applications are now being accepted for the group entering in July or September, **1969.** For information, write to Helen M. Wallace, M.D., School of Public Health, University of California, Berkeley, California 94720.

SOCIETY FOR CRYOSURGERY ANNOUNCES

The Society of Cryosurgery will hold its annual meeting at the Hilton Plaza, in Miami Beach, January 12-17, 1969, and that the following members will act as chairmen and/or moderators:

For Cryo-Ophthalmology: Professors, G. Bietti of Rome, T. Krwawicz of Poland, D. Sudarsky of New York, and D. Paton of Johns Hopkins University, Baltimore, J. Barraquer, Bogota, Colombia.

Cryo-Neurosurgery: Professors, I. S. Cooper of New York, and Robert Rand of U.C.L.A., Los Angeles.

Cryo-Otolaryngology: Professors H. von Leden of U.C.L.A., Los Angeles and W. Brinkman of Holland.

Cryo-Urology: Professors, M. Gonder of Buffalo, H. Young II, of Harvard and F. Sesia of Italy.

Cryo-Gynecology: Professors, W. Crisp of Phoenix, S. Behrman of Ann Arbor and F. Paloucek of Buffalo.

Cryotherapy of Skin Diseases: Professors S. Zacarian and D. Stone, of Worcester and Professor D. Torre of Cornell University, New York.

Cryosurgery of Tumors: Professors A. Gage of Buffalo and W. Cahan of Cancer Memorial Hospital, New York.

Cryo-Engineering and Cryo-Instrumentation: Professors, R. Barron of Ruston, La., and Ralph Crump of Bridgeport, Conn.

Cryobiology: Professors, C. Huggins of Harvard, R. Lillehei of Mayo Clinic and B. Luyet of Madison.

All physicians and surgeons who wish to keep informed of the rapid advances being made in cryogenic procedures for the treatment of diseases are invited to attend the meeting.

WRITE:

John G. Bellows, M.D., Ph.D.
Secretary
30 N. Mich. Ave.
Chicago, Illinois 60602

THE AMERICAN ACADEMY OF CLINICAL TOXICOLOGY

The American Academy of Clinical Toxicology has been founded for the advancement of clinical toxicology, a medical specialty concerned with the diagnosis and treatment of poisoning and drug intoxication.

The purposes of the Academy are to encourage clinical investigation, to promote the development of diagnostic and therapeutic methods, to foster among practicing physicians a better understanding of the treatment of poisoning, and to improve the medical care received by the poisoned patient.

Five categories of membership are provided. **Fellowship:** Fellows are physicians in the full time practice of clinical toxicology with five years experience and who have been judged by the Examining Committee to have fulfilled the requirements set forth by the Constitution and By-laws. **Active Members:** Physicians who are called upon to provide clinical care for the poisoned patient as part of their practice. **Associate Members:** Physicians with no direct involvement in patient care and other scientists whose activities contribute to the advancement of clinical toxicology. **Honorary:** Honorary membership may be voted non-members in recognition of distinguished service or contributions to the objectives of the Academy. **Sustaining Members:** Sustaining membership is provided for organizations wishing to contribute additional financial support to the Academy as an aid in the achievement of its objectives.

The Academy will provide its members with a suitable periodical for the publication of original contributions to clinical toxicology. In addition to an annual business meeting and scientific program, the Academy will sponsor a symposium on some aspect of the practice of clinical toxicology with the proceedings to be distributed to the membership. Ad Hoc committees will be appointed by the Academy to prepare special reports intended to assist the physician toward better utilization of available resources. Subjects under consideration are: Emergency room facilities, ER and I.C.U. nursing, Rapid analytical procedures, Documentation and reporting of toxic reactions, etc. **Clinical Guidelines** in the treatment of poisoning will be a series of brief discussions limited to individual toxic substances presenting pertinent data required for clinical management. The Academy will maintain a register of consulting clinical toxicologists by geographic area to whom physicians calling for assistance may be referred.

An active program of continuing education will be pursued by the Academy to provide the physician in practice with opportunity for specialized training in the management of poisoning. The Academy will sponsor annually a 2 to 3 day intensive training program on the treatment of poisoning. The Academy will participate with regional and local medical groups in the presentation of one day training programs bv provision of teaching aids and assistance in the location of suitable faculty

An organizational meeting of the American Academy of Clinical Toxicology was planned for October 22, 1968, 9:00 a.m. to 12:00 a.m., Drake Hotel, Chicago, Illinois. Applications for charter membership and further information may be obtained from: Eric G. Comstock, M.D., Acting Secretary-Treasurer, American Academy of Clinical Toxicology, P. O. Box 2565, Houston, Texas 77001.

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IS SOUTH DAKOTA A "SECOND CLASS STATE"????

We have one of the lowest per capita incomes in the land — yet, among the self supporting citizens there is little actual poverty. There is a high personal and real property tax, a sales tax, and other state taxes which are as high as in any state — yet, there is no state income tax and the financial condition is as good as any state in the Union. There is a moderate amount of crime— yet, the over-all crime rate is low as compared to the nation as a whole. There are sexual problems — yet, your daughter and wife can walk the streets of the communities of this state without the fear of rape. There are 40,000 Indians — yet, there is no overt racial problem. Few "big shows," major theatrical attractions, and major sporting events come here — yet, each year the recreational facilities of this state attract thousands of people from South Dakota and elsewhere. There are some large but mostly small, diversified industries, but the probability of the major influx of industry into this state in the next few years to bolster the economy, is quite remote. There are none of the serious labor problems, disrupting strikes,etc., which plague large industrial areas. Are all these factors bad? ? ? ?

There are 750,000 people in the state — not much prospect of any remarkable growth in the near future. One of the major problems in regard to the present population is to keep the decent, honest, ambitious, farm kids and the good citizens whom we now have, in the state. To do this there must be jobs. The young people are moving to the urban centers of the U. S. because of the better prospects for employment, higher income, and more bright lights. Some return eventually but most don't. The problem of supply and demand is most critical in the field of education in South Dakota. The institutions of higher learning, especially, are becoming more or less of a "stop over point" in the journey from one teaching position to another. The substandard pay scales plus the lack of "benefits" do not encourage young educators to remain here. Yet South Dakota has educated and exported some of the most outstanding individuals in various fields of endeavor in the United States. Wouldn't it be a better approach to the problem to try keeping these young persons here, rather than importing a labor force from outside of the state, many of whom have no real interest in South Dakota and many who might be less than a credit to the economy.

Oft-times in misguided efforts to enhance our lot in life we bite off more than we can chew. It is sometimes hard to recognize that some factor(s) are missing from the pattern, precluding materialization of the image which we see for ourselves. Isn't it possible that the citizens of this state may have to face the brutal fact that South Dakota is not destined to be a "first class state" with all of the expensive facilities as well as the debt and social problems which plague many of the more urbanized, wealthy, "first class states."

Frequently public spirited citizens mutter about building bigger and more elaborate brick and mortar educational systems for the state (forgetting that an educational system is only as good as its teachers), a four year medical school, and other community and statewide projects entailing the expenditure of millions of

dollars. In a state which has 750,000 already heavily taxed citizens and a low per capita income, having no potential source of increased revenue soon, and a poor outlook for significant population increase, should not any scheme to establish, erect, and revise, major institutions, schools, etc., be examined critically before embarking upon what could be foolhardy schemes the ultimate purpose of which is merely to establish a false facade of being a "first class state." Is it not possible that the facilities of other states might be used to advantage without needless duplication of efforts here?

Yes, South Dakota is in some ways a second class state! ! However, in many others it is head and shoulders above all the other states. It is a good place to live to a ripe old age and an excellent place to raise healthy, happy children. Let's not bankrupt it trying to reach goals which are unattainable, when these goals can be achieved satisfactorily by other, indirect means. We may not be able to boast of the fact that this is the wealthiest state in the Union, but we can boast that we have raised and exported fine men. — Is this bad? ? ? ? Now, let's try to keep some of them here by making it attractive financially and culturally. Then this state will develop and grow in stature and more of the dreams and ambitions will come true. To do this means that we all will have to pay more taxes, probably an income tax.

J. B. Gregg, M.D.

The Editor of the SOUTH DAKOTA JOURNAL OF MEDICINE welcomes editorials from any interested member of the South Dakota State Medical Association. Please forward your editorials to the Journal office, 711 North Lake Avenue, Sioux Falls, for consideration.

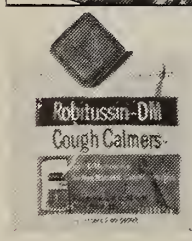
MEETINGS

Title: General Internal Medicine.

Date: October 16, 1968 - April 16, 1969
Wednesday 1-4 p.m.

Director: Wilbur W. Oaks, M.D., Daniel Mason, M.D., and Sheldon R. Bender, M.D.

Location: Alumni Hall, Hahnemann Medical College, Philadelphia, Pa.



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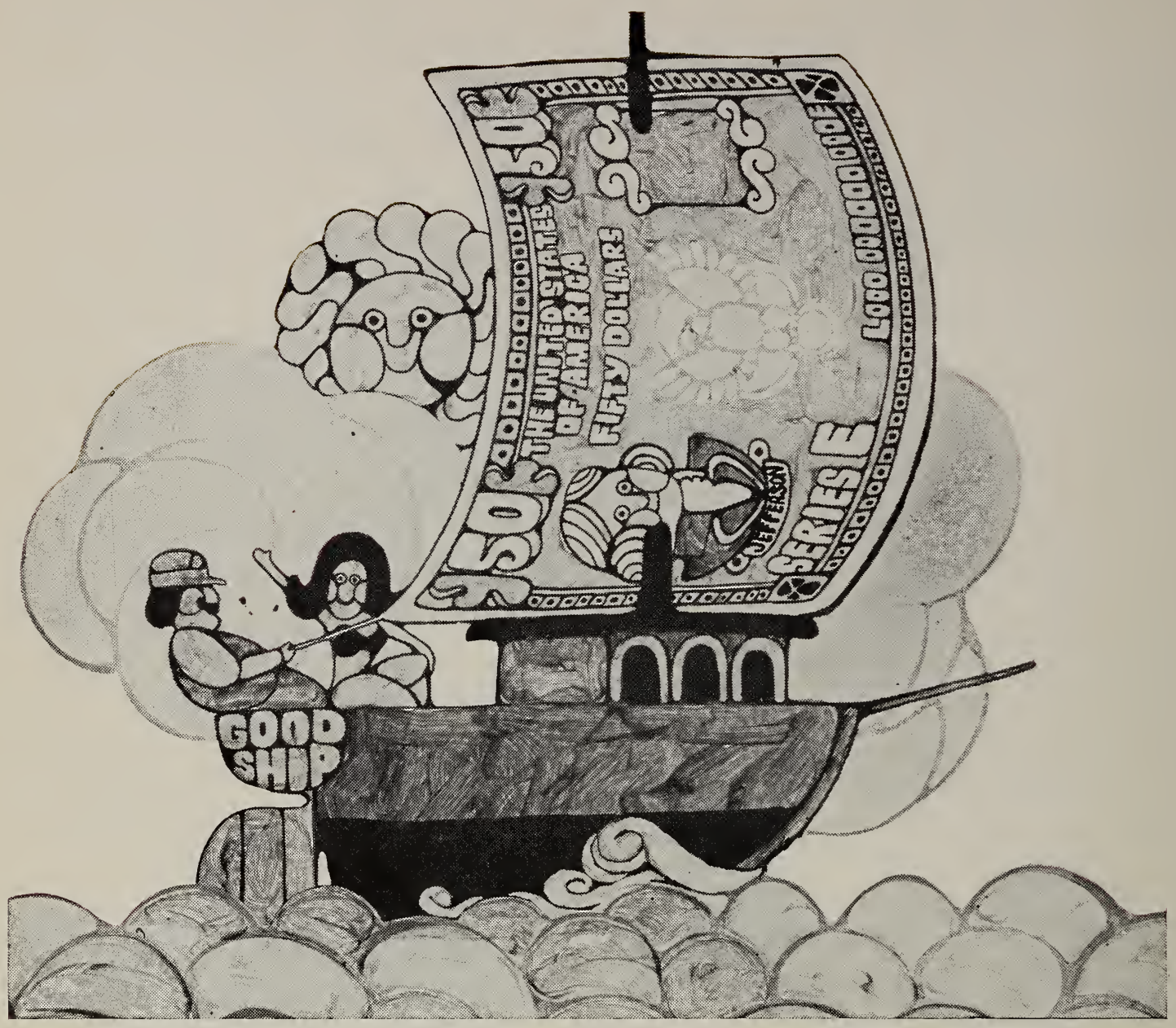
PRESIDENT'S PAGE

Elsewhere in this issue of the Journal you will find the minutes of the hearings and the list of recommendations made by the Legislative Research Council which met in Pierre September 11 and 12. It is unfortunate that the early, incomplete press releases concerning the actions of the LRC gave rise to fears that the counsel of Medicine had gone unheeded. As with all minutes of a general meeting, where the full text of discussion cannot be recorded, there are areas of possible misunderstanding. An example is the reference to the "Medical Center" at the School of Medicine. This of course makes little sense in view of the fact that we are not dealing with a medical school having a four year, clinical teaching capacity. The discussion here pertained specifically to the desirability of having an Office of Community and Rural Health Planning at the Medical school. Dean Knabe later referred to this in his discussion of the Medical School's role as a coordinating agency for study and planning on a state wide basis. If one carefully reads the 12 recommendations of the LRC I believe he will be impressed with the depth of concern and attitude of responsibility which the legislators have shown. In my opinion the LRC deserves our thanks and appreciation for the comprehensive review of the problem and the recommendations for positive action which they have made. In view of the over-all recommendations the incomplete portion concerning review of existing standards and policies relating to admission to the School of Medicine, which was lifted out of context by the press, pales to insignificance. I strongly urge all members of the association to review these minutes and recommendations carefully. Although they do not furnish pat answers or solutions our attention is focused more clearly on the problems that do exist and numerous avenues of investigation and search for possible solution are offered. One must first view the picture as a whole then separate it into its specific components and identify the problems. Only then can the individual problems be logically attacked and solved.

John T. Elston, M.D.
President



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News Notes • Changes • Births • News

Pop's Proverb

The unborn are less to be pitied than those who never LIVED.

The Rapid City Lions Club heard **Raymond G. Burnett, M.D.,** Rapid City, speak on cancer research and the importance of early detection and treatment.

* * *

Bruce Lushbough, M.D., Brookings, served on the committee on arrangements for the Parent-Teacher Mental Health Workshop held at the Brookings High School.

* * *

The South Dakota Society of Internal Medicine named **R. J. Ogborn, M.D.,** Sioux Falls, as president for the coming year; **H. Streeter Shining, M.D.,** Rapid City, president elect; and **W. O. Rossing, M.D.,** Sioux Falls, secretary-treasurer.

Members of the Watertown District Medical Society heard David M. Paul, M.D., physiatrist from Iowa City, Iowa, speak on "Myofascial Pain Syndromes." The program was sponsored by Merck, Sharp and Dohme.

YOUR CONTRIBUTION TO THE SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT FUND IS NEEDED

Representative Ben Reifel and Mrs. Reifel visit State Medical Association booth at State Fair in Huron, South Dakota.

H. R. Lewis, M.D., Mitchell, and **H. L. Saylor, M.D.,** Huron, discussed the relationship of players and sport physicians at a state sports clinic held in Yankton.

* * *

John D. Freeman, M.D. left Miller to complete a year of residency at Baylor Hospital in Dallas, Texas.

* * *

The Watertown Board of Education presented the Lake Area Vocational School's first annual service award to **G. Robert Bartron, M.D.**

Dr. Robert Hayes discusses Regional Medical Program projects during "Site Inspection" in Omaha. Other South Dakota representatives shown in the picture include: H. Streeter Shining, M.D., Rapid City; Paul Hohm, M.D., Huron; Bill Murphy, Executive Director, Hospital Association and Mrs. Terry Scwab, Assistant to Dr. Hayes. Representatives not shown in the picture include Drs. Warren Jones, James Felker, and George Knabe.

Myron C. Tank, M.D., Brookings, has resigned from the Hospital Board after 32 years of service. **W. H. Patt, M.D.** was appointed to fill his vacancy.

* * *

Robert C. DeWeese, M.D. joined the staff of St. Luke's Hospital in Aberdeen as an anesthesiologist.

The Codington County Unit of the American Cancer Society named **G. Robert Bartron, M.D.,** Watertown, as delegate to the Division's annual meeting to be held in Pierre.

* * *

George Westland, M.D. has left Onida and is now located in Bozeman, Montana.

Alden R. Heupel, M.D., Watertown, spoke to the graduates of Memorial Hospital's certified laboratory assistants program during commencement exercises.

* * *

The Belle Fourche Chamber of Commerce celebrated Dr. Chassell Day at a noon luncheon in honor of **J. L. Chassell, M.D.** who recently observed his 97th birthday. Dr. Chassell has served the community for 62 years and is the only surviving charter member of the Chamber of Commerce.

* * *

John S. Kumar, M.D., has established his practice in Gettysburg.

* * *

Members of three state organizations dealing with water supply, waste water treatment and water pollution control were addressed by **G. Robert Bartron, M.D.,** Watertown, during the opening session of their annual convention.

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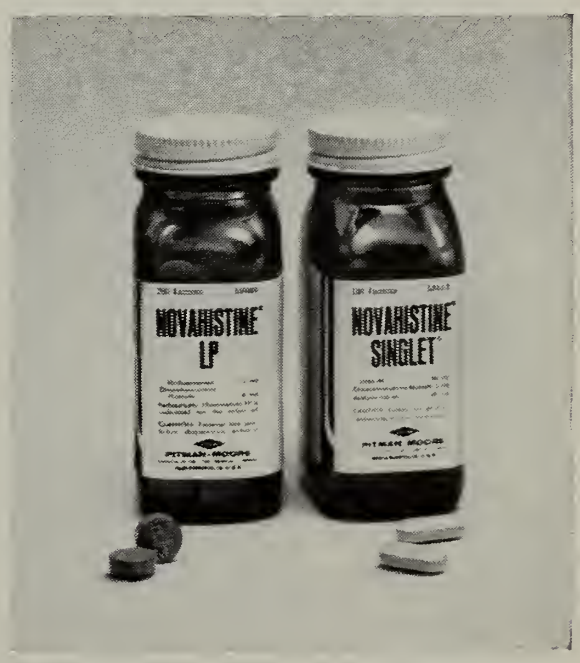

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Fourth District (Pierre)

Charles Swanson, M.D. ..... Pierre

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Grievance Committee

1. James P. Steele, M.D. (1972)
2. C. Rodney Stoltz, M.D. (1970)
3. Paul Hohm, M.D. (1971)
4. J. J. Stransky, M.D. (1973)
5. R. H. Hayes, M.D. (1969)

State Utilization and Review Committee

1. E. W. Sanderson, M.D., Chr.
2. Harvard R. Lewis, M.D.
3. Roscoe Dean, M.D.
4. C. B. McVay, M.D.
5. E. S. Palmerton, M.D.
6. H. Russell Brown, M.D.

Executive Committee

No appointments — Committee consists of president, vice president, president-elect, secretary-treasurer, chairman of the Council, and speaker of the house of delegates.

Commission on Medical Service— Covering Medical Education and Hospitals, Insurance Programs for the membership, prepayment plans, and workman's compensation, Medical Licensure, Rural Medical Service, Traffic Safety, and School and Public Health.

1. G. E. Tracy, M.D., Chr., ('70)
2. W. B. Odland, M.D. ('70)
3. Bernard C. Gerber, M.D. ('70)
4. William R. Taylor, M.D. ('70)
5. T. H. Willcockson, M.D. ('69)
6. L. H. Amundson, M.D. ('69)
7. Warren Jones, M.D. ('69)
8. Donald Weatherill, M.D. ('69)
9. F. R. Williams, M.D. ('71)
10. E. Ruud, M.D. ('71)
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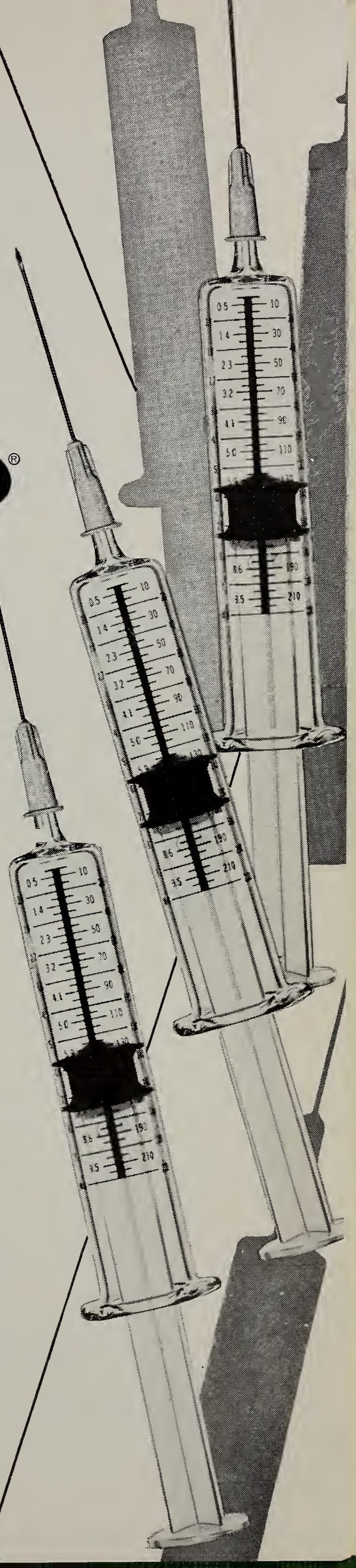

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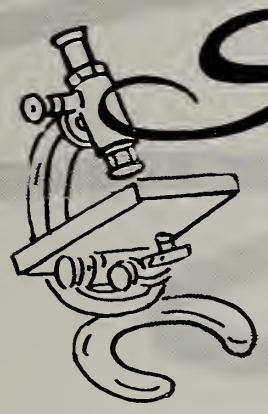

Scientific PAPER

SEIZURES
Their Manifestations and Treatment*

Martin Chipman, M.D.

A seizure is a sudden "electrical storm" in the brain. The clinical manifestations of this "storm" may be associated with one or more of the following phenomena: a loss or alteration of consciousness, involuntary movements, increase or decrease in muscle tone, alterations of sensations, disturbances in autonomic function, and aberrations in thought processes; the brain area in which the "electrical storm" begins and the path which this "storm" takes in the brain determines the seizure manifestations. A seizure, like a cough or a headache, is not a disease but a symptom. It is a symptom of what the "brain does when it is injured."[1]

Table I lists some of the disorders associated with seizures. In addition to the disorders listed above there is a group of conditions which resemble seizures and which can only be differentiated from them by history and course. These disorders include breath holding spells, emotional disturbances, narcolepsy, syncope due to a variety of causes, and Menieres disease.

Any child or adult who presents with seizures should have an examination which will help determine the etiology. The following minimal work-up is suggested:

1. Detailed history.
2. Detailed general medical and neurological examination.
3. Complete blood count and sedimentation rate.
4. Determinations of serum calcium, phosphorus and blood sugar.
5. Skull films.
6. Electroencephalogram.

A lumbar puncture with the measurement of spinal fluid pressure, determination of spinal fluid cells, total protein and culture may be necessary in most cases. In a few instances a radioactive brain scan and contrast studies may be helpful.

A complete, detailed history is the keystone in the management of the patient with seizures. The history should include a description of the seizures, their frequency and the circumstances under which they occur. The electroencephalogram can be a useful laboratory aid, but it is not a direct read-out of seizure diagnosis nor is it the "test" on which treatment is based. **An electroencephalogram without detailed history and examination is of little practical value.**

There are many ways of classifying seizures. For those of us who treat patients the most useful classification is the one which can serve as a guide to management. Seizures can best be classified as:

1. Major motor
2. Minor motor
3. Petit mal
4. Psychomotor
5. Epileptic equivalents
6. Febrile convulsions

MAJOR MOTOR SEIZURES. These seizures may be generalized, focal or may show a Jacksonian march. Major motor seizures can occur at

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* Presented at the Annual Meeting of the S. D. Medical Ass'n in Aberdeen, May, 1968.

any age and may be secondary to any of the causes listed in Table I. The typical description is of a sudden loss of consciousness with movements of arms and legs, tongue biting, loss of sphincter control followed by a well-defined postictal period.

MINOR MOTOR SEIZURES. These spells occur in infants and young children and are characterized by jerks, "salaam" attacks, head dropping and nodding or sudden losses of muscle tone. These seizures are most often noted in infants who are retarded and may gradually disappear as the child gets older.

PETIT MAL. The term petit mal should **not** be used for seizures which appear to be less than major motor. Petit mal should be used for classifying seizures which occur in healthy children between the ages of seven and sixteen who have no neurological deficits, who have a family history of these seizures and who have an electroencephalogram which has a very specific three per second spike and wave pattern. The seizures are characterized by momentary attacks of absence, myoclonus or sudden momentary losses of muscle tone. These episodes may occur as often as fifty or sixty times a day; in school the child with petit mal may be labeled as inattentive. The seizures can be precipitated by a short period of hyperventilation.

PSYCHOMOTOR SEIZURES. These fits originate in the temporal lobes and may be due to any of the causes I have listed above. They usually occur in adults or older adolescents and are usually introduced by sensory, aural or olfactory aura. They are then followed by an **altered** state of consciousness which may be accompanied by stereotyped movements or bizarre, inappropriate behavior. The descriptions of psychomotor seizures are some of the strangest in medicine.

EPILEPTIC EQUIVALENTS. Epileptic equivalents are the wastebasket of seizure disorders. They may include paroxysmal headaches, vertigo, and abdominal pains. The manifestations are rarely protracted. Even though the patient may have an abnormal electroencephalogram this laboratory finding may not be related to the symptoms. If epileptic equivalents are suspected, a trial on anti-convulsants should be started.

FEBRILE CONVULSIONS. In order to label convulsions as febrile **they must occur in normal children under the age of five and must occur only with fever.** If the child has a neurological deficit or if the seizures occur in children over five, they are **not** febrile convulsions.

The treatment of seizures is based on uncovering the etiology of the symptoms; if a definite etiology exists and is treatable then treating the infection or the metabolic abnormality, or removing the toxin will often eliminate the seizures. If this is impossible, as it is in many cases, then the seizures must be controlled with anti-convulsant drugs. Inability to control them may cause incapacitating brain damage or may decrease the effectiveness of the patient in his every day life.

The control of seizures can most often be achieved with a regimen which emphasizes adequate sleep, good nutrition, the avoidance of emotional stress, and adequate and appropriate drug therapy.

In Table II the drugs most often used in seizure disorders are divided into five large groups.

The basic principle of drug therapy in seizure disorders is simplicity. One drug should be started and then increased to effective dosages. If necessary, a second drug should then be added. Effective drug therapy in convulsive disorders depends on primary and secondary drugs administered systematically to the seizure types outlined above. The primary drugs are drugs which can be used alone; secondary drugs are less effective in various groups of seizures and should only be used with a primary drug. The following is a description of primary and secondary drugs which should be used in the major groups of seizure disorders:

MAJOR MOTOR SEIZURES. **Primary drugs:** Dilantin, phenobarbital, Mysoline and bromides. **Secondary drugs:** Mebaral, Diamox, Gemonil.

MINOR MOTOR SEIZURES. **Primary drugs:** phenobarbital, ACTH, Dilantin. **Secondary drugs:** pyridoxine, Diamox.

PETIT MAL SEIZURES. **Primary drugs:** Zarontin, Tridione, Paradione. **Secondary drugs:** Dexedrine, Celontin, Milontin, Diamox.

EPILEPTIC EQUIVALENTS. **Primary drugs:** Dilantin, phenobarbital, Mysoline. **Secondary drugs:** Gemonil, Mebaral.

FEBRILE CONVULSIONS. **Primary drugs:** phenobarbital. **Secondary drugs:** Diamox.

Table III describes the usual dosage for the commonly used anti-convulsants.

Status epilepticus presents a special problem in drug management. Status epilepticus should be defined as **continuous seizures without lucid intervals;** clusters of seizures **with** lucid intervals are not status epilepticus. In patients with seizure disorders status epilepticus often results when patients suddenly stop taking their anti-

convulsant medication **or** when there are sudden changes in their metabolic physiology (e.g. acute infection or onset of puberty). Status is a major medical emergency and must be stopped to prevent brain damage or death. Phenobarbital, Amytal, Valium, paraldehyde and ether have all been used effectively to stop status. It makes little difference which one is used. The only requirement is that they be used quickly, in adequate dosage and in conjunction with the maintenance of a proper airway. I have had excellent results in children and adults with Valium, 5 mgms. to 10 mgms. given intravenously. While status epilepticus is being controlled the patient must be covered with Dilantin and phenobarbital.

The great variety of individual variations in response to drugs makes close, constant follow-up of each seizure patient important. The patient with seizures must not only see his physician frequently but must also be educated to understand every aspect of the physiology, symptomatology and the control of his seizures.

TABLE I

*Disorders Associated with Seizures

Intracranial Infections

Etiologies: a. Bacteria
b. Viruses
c. Parasites
d. Spirochetes

Trauma
Intracranial Hemorrhages

Etiologies: a. Aneurysms
b. Subdural hematomas
c. Epidural hematomas
d. Arteriovenous malformations
e. Hypertension
f. Atherosclerosis
g. Bleeding and clotting disorders

Cerebrovascular Insufficiency

Etiologies: a. Atherosclerosis
b. Arteritis
c. Hypoxia resulting from cardiac arrythmias and hypoventilation

Cerebral Neoplasms
Metabolic Disorders

Etiologies: a. Electrolyte disturbances
b. Hypoglycemia
c. Liver disease
d. Renal disease
e. Disorders of amino acid metabolism (e.g. phenylketonuria)
f. Hypocalcemia
g. Pyridoxine deficiency
h. Fever

Toxins

Etiologies: (Several important toxins)
a. Penicillin
b. Thorazine
c. Alcohol
d. Lead
e. ACTH
f. Immunizations

Congenital Cerebral Defects

Etiologies: a. Tuberous sclerosis
b. Sturge-Weber
c. Hydrocephalus
d. Porencephalic cysts

Cerebral Degenerations

TABLE II

*Classification of Anti-convulsants

Barbiturates and Related Drugs:
a. Phenobarbital
b. Mebaral®
c. Gemonil®
d. Mysoline®

Hydantoins:
a. Dilantin®
b. Mesantoin®
c. Peganone®

Succinimides:
a. Zarontin®
b. Celontin®
c. Milontin®

Oxazolidines:
a. Tridione®
b. Paradione®

Other Drugs Used as Anti-convulsants:
a. Bromides
b. Diamox®
c. Pyridoxine
d. ACTH

TABLE III

†Suggested Doses for Common Anti-convulsants

Drug	Under 6 years of age	Over 6 years of age
Phenobarbital	¼ grain t.i.d.	½ grain t.i.d.
Mebaral	½ grain b.i.d.	½ grain t.i.d.
Mysoline	50 mgms. t.i.d.	250 mgms. daily**
Dilantin	½ grain t.i.d.	1½ grains b.i.d. or t.i.d.
Zarontin	250 mgms. b.i.d.	250 mgms. t.i.d.
Tridione	150 mgms. b.i.d.	300 mgms. b.i.d.

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* Adapted from: Livingston, Samuel, "The Epilepsies, Diagnosis and Treatment," **Disease-a-Month,** July, 1967.

† Adapted from: Livingston, Samuel, **Drug Therapy for Epilepsy,** Charles C. Thomas, Springfeld, Illinois. 1966.

**Patients may be very sensitive to this drug. Some patients will have to be started at 125 mgms. and the dose gradually increased.

Knee-deep

CLINICOPATHOLOGICAL CONFERENCE

From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Departments of Pathology of the Hospital and of the School of Medicine of the University of South Dakota

JOHN FORD BARLOW, M.D.*
Pathologist - Editor

FREDERICK ENTWISTLE, M.D.**
Orthopedic Surgeon - Discusser

A 68-year Old Caucasian Male With Shoulder Pain of Two Months Duration

CASE 64—3881

This 68-year old retired banker entered the hospital because of pain in the left shoulder of two months duration.

The patient first noticed pain when he was shoveling snow. A loud snap was audible at the time of onset of the pain which was continuous day and night and was poorly relieved by medications and one hydrocortisone injection. There was no significant past history. The physical examination revealed a well-developed, well-nourished Caucasian male in no distress, pulse 84 and regular, respiration 24, Blood Pressure 144/86, temp. 98.8. There were no significant physical findings other than relating to the left shoulder which was swollen and moved well in about a five degree arc but had no further movement without extreme pain.

Urinalysis was straw-colored clear; specific gravity 1.009; pH 5.5; negative for glucose, protein or hemoglobin. The sediment contained an occasional white cell. Hgb. was 14.4 gms%, hematocrit 43%, mean corpuscular hemoglobin 34%, white count 6,000/mm^3, erythrocyte sedimentation rate 2 mm/hr. The differential revealed 85% polymorphonuclear leukocytes, 3% band forms, 1% eosinophils, 10% lymphocytes and 1% monocytes. The syphilis serology was non-reactive. The BUN, acid and alkaline phosphatase, total protein and electrophoretic pattern were within normal limits. Calcium and phosphorus determinations were within normal limits.

The chest film was normal. An intravenous pyelogram was noncontributory. X-rays of the shoulders showed mottled bone destruction in the proximal humerus and a mildly comminuted transverse fracture through the humeral metaphysis. Metastatic neoplasm was suggested. A biopsy was diagnosed as probable metastatic carcinoma by one pathologist and consistent with malignant lymphoma by another pathologist. However, the specimen was felt to be relatively inadequate for definite diagnosis. Routine culture of the biopsy revealed no growth. An operation was performed.

CASE DISCUSSION

Dr. Frederick Entwistle: Before going into the differential diagnosis, I would like to point out that some pathologists such as Dahlin use the term malignant lymphoma and reticulum cell sarcoma of bone somewhat synonymously. Therefore, in my differential diagnosis I will refer to them in this manner.

This patient was a 68-year old man who was in excellent health. The case boils down to the differential diagnosis of a man with a pathologic fracture in the humerus. By far the most likely diagnosis in a man of this age group is metastatic carcinoma. The possible primaries are thyroid, kidney, prostate and gastrointestinal tract in that order.

The second major item in the differential diagnosis is infection. This should always be considered in bone lesions whether there is pathologic fracture or not.

The third major category is a primary malignancy of bone. I will mention hyperparathyroidism here because there is no other good place to include it. By far the most common primary malignancy of bone is myeloma. Also under

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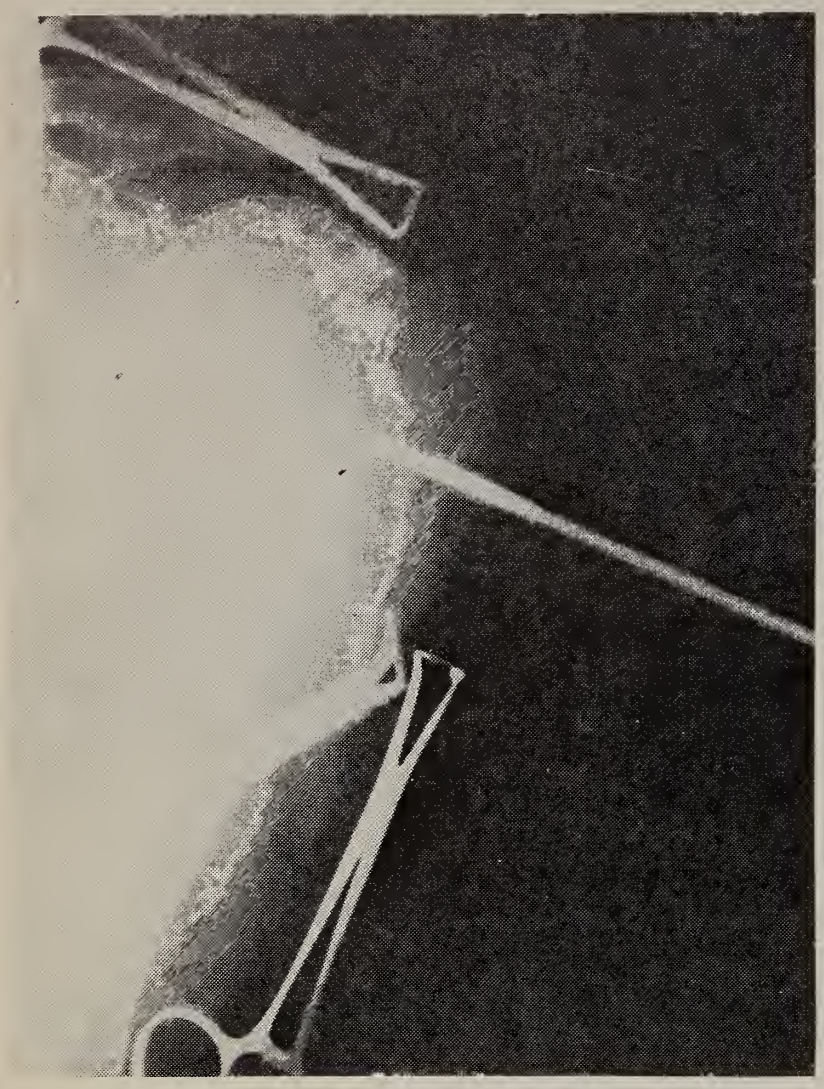
Figure 1



Osteolytic lesion with fracture in head of humerus (operative film).

malignancies of bone we have to consider osteosarcoma, chondrosarcoma, reticulum cell sarcoma and giant cell tumor of bone. Malignancies developing in Paget's disease of the bone must be considered particularly in this age group. The above therefore is the differential diagnosis. I will now try to go back and eliminate some of these possibilities from the data in the protocol.

We find that the patient has a sed rate of 2 mm/hr and a normal hemogram. These findings are not compatible with infection. I would like to mention that the patient had a hydrocortisone injection of a joint. It is always tempting to inject the joint without an X-ray. But if you do this frequently enough, sooner or later you're going to get burned. In general, it is always wise to take an X-ray before injecting a joint. It is unlikely that the hydrocortisone injection had anything to do with the pathologic process in this case and is just incidental. At any rate, I think we can eliminate injection as a cause of this lesion.

Hyperparathyroidism is an interesting possibility and certainly can cause marked focal reabsorption of bone simulating bone tumor. However, the normal calcium, phosphorus, and alkaline phosphatase tend to eliminate hyperparathyroidism as a possibility in this case. The normal sed rate and normal alkaline phosphatase also tend to eliminate Paget's disease.

The X-ray pattern in this case is one of gross destruction by a lytic process. (Figure I). This is not the usual picture for osteosarcoma, chondrosarcoma or giant cell tumor. Also we are given a tentative biopsy report in this case and the findings are not consistent with any of these malignancies. As far as the primary malignancies of bone, we are left with myeloma, and reticulum cell sarcoma. In regard to myeloma, this case probably does not represent multiple myeloma or diffuse myelomatosis since the laboratory studies including electrophoretic pattern, calcium, phosphorus, and alkaline phosphatase are all within normal limits. However, there is the disturbing fact that there have been cases reported in which a solitary myeloma of bone is present with perfectly normal laboratory studies. Many of these cases after a period of years go on to develop typical diffuse multiple myeloma with abnormal laboratory studies. Therefore, I cannot completely rule out a solitary myeloma in this case. Metastatic carcinoma is a very serious possibility in this case. There is nothing to suggest a primary thyroid malignancy although these can be small and nonpalpable. The normal sed rate and normal acid phosphatase are against metastatic prostatic carcinoma although these studies could be normal. The chest X-ray was read as normal and this would make metastatic lung carcinoma unlikely in this case. The gastrointestinal tract may occasionally produce a metastatic lesion to bone and there was no gastrointestinal X-ray survey in this case. However, the patient had no gastrointestinal symptoms to suggest a gastrointestinal lesion. The intravenous pyelogram is reported as non-contributory in the protocol. I wish they had said normal. If they mean normal, I am somewhat less worried about the possibility of a metastatic renal lesion. A urologist friend of mine said that with a normal intravenous pyelogram and a normal sed rate it would be unlikely that there would be a metastatic renal cell carcinoma, but, of course, this is still a possibility. We still must consider metastatic carcinoma, reticulum cell sarcoma and a solitary plasmocytoma. The biopsy interpretation is confusing in that both metastatic carcinoma and malignant lymphoma or reticulum cell sarcoma are suggested. Maybe we could take a closer look at the X-rays now?

Dr. Barlow: While we're getting out the X-rays, I might interject that much of the con-

fusion in this case comes from the interpretation of the biopsies. A needle biopsy was performed and we suggested the diagnosis of metastatic carcinoma because we thought that the lesion was compatible with lung primary and also this was a likely statistical possibility in a man of this age group. This case just points out that it is very hazardous to make an exact histological diagnosis on the basis of a needle biopsy of tumor of bone and this is one of the reasons that this interesting case is being presented.

Dr. Petereit*: I have selected these two films to show the extensive lytic destruction of the proximal humerus in the region of the surgical neck. There is a pathologic fracture through it. There is destruction of the cortex in the bone of the upper humerus and a diffuse mottled appearance. Looking at X-rays of the other bones there is perhaps a slight osteoporosis in a man of this age, but it is not striking. The important point in the differential diagnosis of malignant tumor of the bone is the location. Osteosarcoma is usually a tumor of the metaphysis while giant cell tumor involves the epiphysis and Ewing's sarcoma is a diaphyseal lesion. Another helpful point is age. This patient is a little old for any of the tumors I mentioned although giant cell tumor is still a possibility. The X-ray is certainly compatible with reticulum cell sarcoma which some people feel is an adult form of Ewing's. Although reticulum cell sarcoma usually occurs in the 30's, it certainly cannot be ruled out. As in this case, reticulum cell sarcomas frequently invade the cortex without expanding it and give a diffuse mottled appearance of the bone. Unfortunately, other malignant tumors may also have these findings. There is not much periosteal reaction. The periosteal reaction is often associated with a soft tissue mass and this patient may indeed have a soft tissue mass although it is difficult to say. I do think that osteosarcoma is a possibility in this case since this lesion may be not only sclerosing (or ossifying) but also of lytic type. This could be the latter. I feel the process is a little too diffuse radiologically to be a solitary myeloma although you can get fooled by this certainly. In fact, diffuse myelomatosis may show up as osteoporosis with no specific lytic lesions and all that is seen on X-ray is the diffuse osteoporosis.

I think that in the radiologic diagnosis of bone tumors often all you can say is whether the tumor is benign or malignant. In attending a seminar on bone tumors given by Dr. Hodes in Denver at one time, I learned an interesting point. Dr. Hodes, by the way is a well-known authority on the radiologic diagnosis of bone tumors. He said that if a bone tumor appears benign by X-ray, it probably is with the exception of chondrosarcoma. We have recently had an excellent example of this in a lady about this age group who had a lytic lesion in the acetabulum. The lesion did not appear malignant although we included in our differential diagnosis metastatic carcinoma and fibrous dysplasia. However, this did turn out to be a chondrosarcoma of bone. Dr. Hodes went on to say that if a lesion looks malignant by X-ray it probably is but there are several exceptions and these are a little harder to differentiate. These include infection, trauma, eosinophilic granuloma especially if it has a fracture associated with it, aneurysmal bone cyst, and giant cell tumor.

I also might mention something about periosteal reaction. A lucent type of periosteal reaction such as in this case favors a malignant process where a solid type of periosteal reaction favors a benign process. This is certainly not always the case as you can have lucent periosteal reactions in infections and other diseases. However, it is helpful. In this case there is a very faint periosteal reaction which might pass for a Codman's triangle. Codman's triangle was originally described with osteosarcoma but can occur when any malignant tumor pushes out the periosteum and causes periosteal bone to be formed in the soft tissue. Another helpful point in bone tumors is if there is a sclerotic well-defined margin about the lesion, this favors a slow-growing process which is usually benign. If the lesion is poorly defined, it favors a more rapidly growing process which is usually malignant. In this case, the lesion is very diffuse. We have a periosteal reaction which is not solid and you come to the obvious conclusion that this is not a benign process. However, you must always consider infection.

Dr. Entwistle: I might make a couple other points. One is that the punched-out lesions of myeloma on biopsy can often be mistaken for metastatic carcinoma. The other is that renal cell carcinoma metastatic to bone very frequently is solitary and can simulate a primary bone tumor.

Dr. Petereit: I certainly agree that kidney and also thyroid are very prone to masquerade as primary malignancies of bone.

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* Radiologist, Sioux Valley Hospital.

Dr. Barlow: I might add also that renal cell carcinoma particularly can take on a sarcomatous appearance and have all the histologic characteristics of a primary bone sarcoma. In fact, I have seen an amputation for metastatic malignancy of the kidney which appeared like a primary fibrosarcoma of bone.

Dr. Entwistle: I might add also in my reading and experience reticulum cell sarcoma of bone often shows a diffuse mottled process through 20-50% of the bone surface and I don't see quite that extent of involvement here.

Dr. Petereit: There may be more involvement than is apparent from these X-rays. We do not have real good close-up shots of the lower part of this bone.

Dr. Entwistle: I might add also that in patients with reticulum cell sarcoma, the patient is frequently in very good health as is true in this case. I will then list my diagnoses and speculate that the operation performed was a rebiopsy.

1. *METASTATIC CARCINOMA OF THE BONE — ? KIDNEY*
2. *RETICULUM CELL SARCOMA PRIMARY IN BONE — CANNOT BE RULED OUT*
3. *SOLITARY MYELOMA OF BONE — CANNOT BE RULED OUT*

PATHOLOGIC DISCUSSION

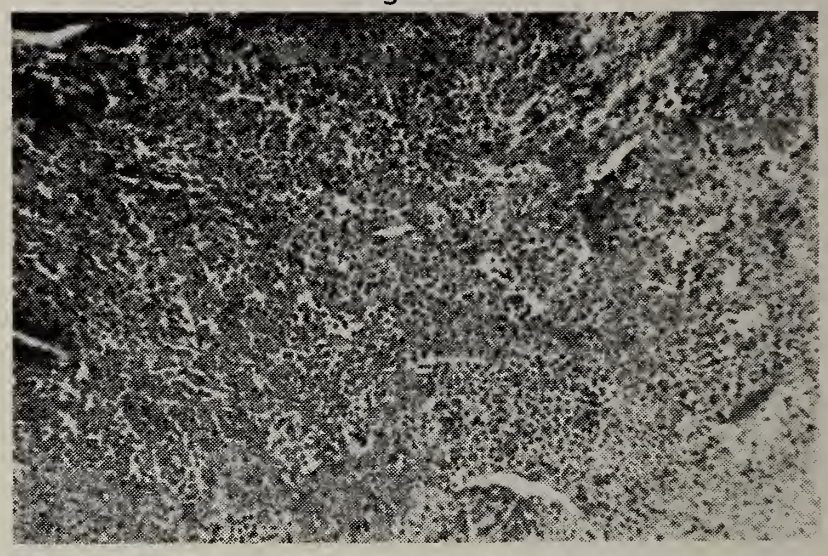
Dr. Barlow: The first picture demonstrates the resected specimen. There is a fracture through the tumor and you can note that tumor extends for a considerable distance down the shaft (Figure II). The next two pictures are photomicrographs which show uniform cells with round to oval or slightly lobulated vesicular nuclei and fairly abundant cytoplasm. This is a typical histologic picture of reticulum cell sarcoma. (Figure III).

The reticulum cell sarcoma of bone was described by Jackson and Parker in 1939. It constitutes approximately 5% of all bone tumors. The highest incidence is between 20 and 40 years of age. As has been pointed out, the patient enjoys relative well-being and has normal laboratory findings. This contrasts with Ewing's sarcoma in which there is often fever, leukocytosis, and an elevated sedimentation rate. Reticulum cell sarcoma occurs usually in the long bones. 45% of the tumors occur about the knee and 18% in the bones of the upper extremities. There is a markedly lytic and extensively destructive process within bone. Metastases to lymph nodes and lungs occur.

Figure 2

Marked destruction of humerus by tumor with extension down shaft.

Figure 3



Uniform picture of cells with round to oval nuclei and fairly abundant cytoplasm.

An important point about primary reticulum cell sarcoma of bone is that the prognosis for a five-year survival is 30-50%. This is markedly different from reticulum cell sarcoma primary in lymph nodes or soft tissue. The latter lesion is histologically indistinguishable but the prognosis is much worse. A 20% survival for 2 years is about the best that can be expected. Therefore, primary reticulum cell sarcoma of bone is biologically a much more favorable lesion and aggressive ablative therapy or radiotherapy often give gratifying results.

Dr. Jacobson*: Does solitary myeloma of bone have an associated hyperglobulinemia?

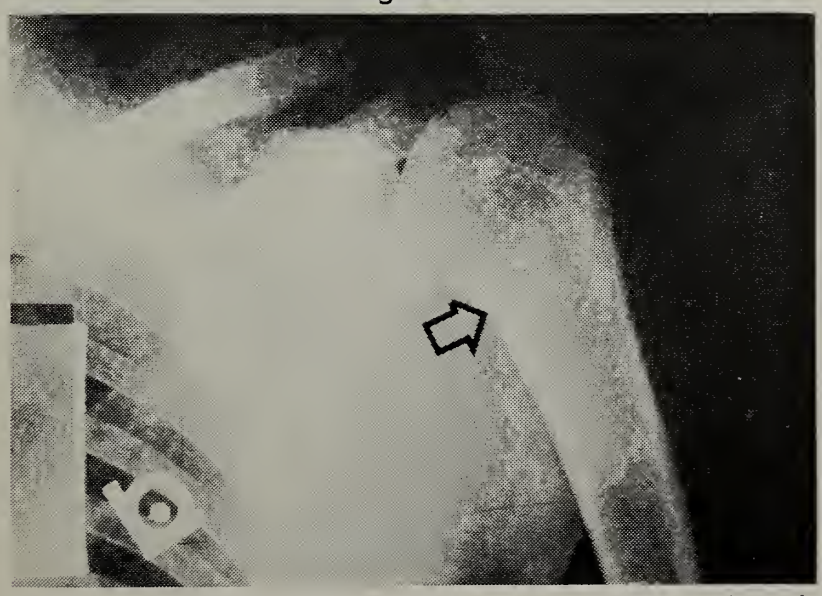
Dr. Barlow: Frequently not, although the lesion may go on to become a diffuse myeloma and then the hyperglobulinemia develops.

Dr. Gross:** This was a case of mine and our first procedure in this case was a needle biopsy and we received a report of metastatic carcinoma. We irradiated the lesion and subsequently made search for a possible primary. The patient responded very well to the X-ray therapy for about a year and during this time no primary tumor became apparent. We, therefore, began to doubt our original diagnosis of metastatic carcinoma. We did treat the patient again with X-ray but got very little response so we did a rebiopsy. We did an open biopsy this time and made the diagnosis of reticulum cell sarcoma. Because the patient was not responding to a course of X-ray, we went ahead and did a four-quarter amputation. The patient is now approximately 2½ years after his four-quarter amputation and still doing well. It's too early to report glowing results from the amputation but he seems to be doing well so far.

I think we could point out several interesting things about lesions of the shoulder. That is, as Dr. Entwistle pointed out, all shoulder pain is not bursitis. The first case is in a young man who had had pain in the shoulder and did not respond to the usual treatment for bursitis. He said that aspirin seemed to help his pain but it came right back if he did not take the aspirin. I'll show you his X-ray.

Dr. Petereit: You will note here the central lucent defect with some sclerosis around it and I would guess that this lesion most likely represents an osteoid osteoma. (Figure IV).

Figure 4



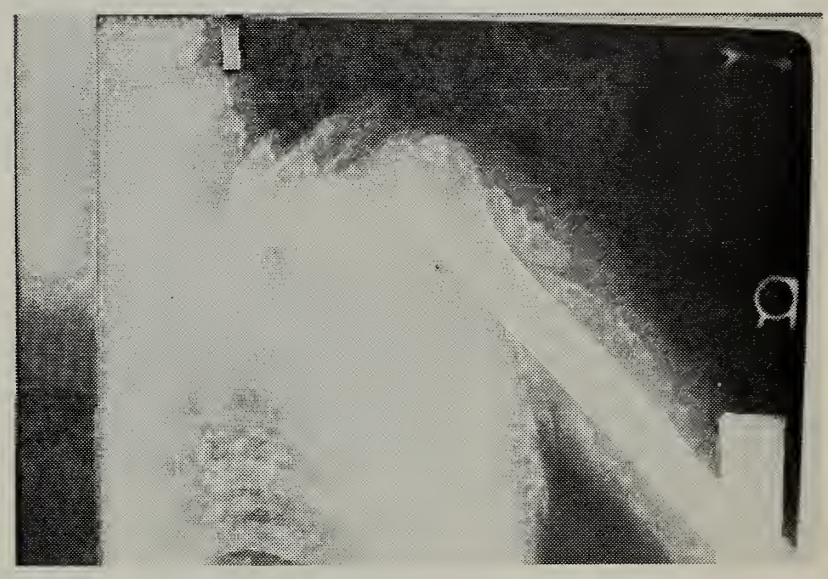
Note osteolytic defect with surrounding sclerosis (arrow).

*Intern, Sioux Valley Hospital.
**Orthopedic Surgeon, Sioux Valley Hospital.

Dr. Gross: Yes, I will pass this gross picture of this osteoid osteoma around. I might point out that these lesions are very difficult to find at operation as was true in this case and it must be completely removed in order to relieve the symptoms.

This is a middle-aged man who woke up with severe pain in his shoulder in the middle of the night and I saw him in the Emergency Ward. I got this X-ray (Figure V) and it looked normal but his symptoms did not improve following injection of the shoulder. Therefore, I got another X-ray (Figure VI) view of this and this demon-

Figure 5



Apparently normal shoulder joint.

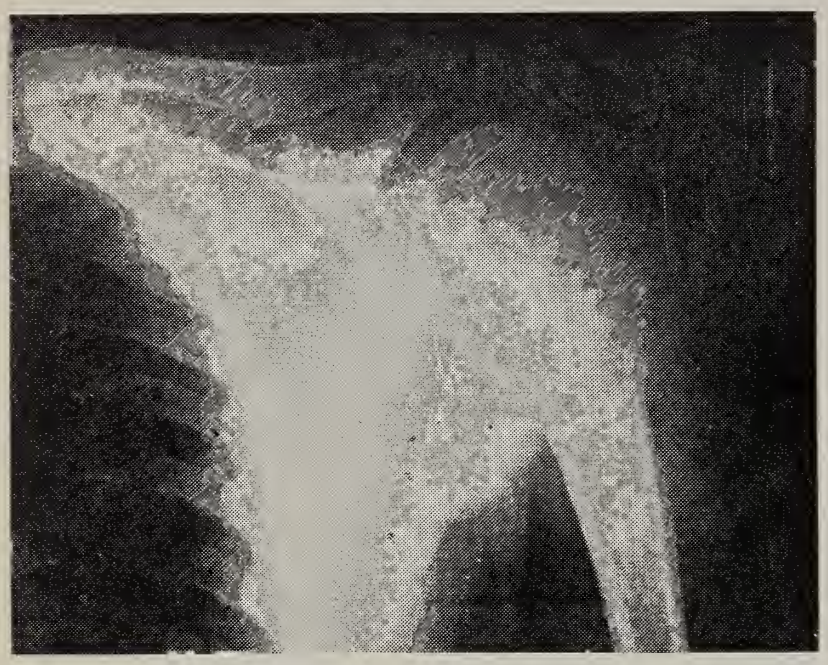
Figure 6

Arrow is in gap, below acetabulum to demonstrate a posterior dislocation of the shoulder.

strates a posterior dislocation. This patient had a convulsion in bed and we had had no initial history of trauma. This misled me in this case.

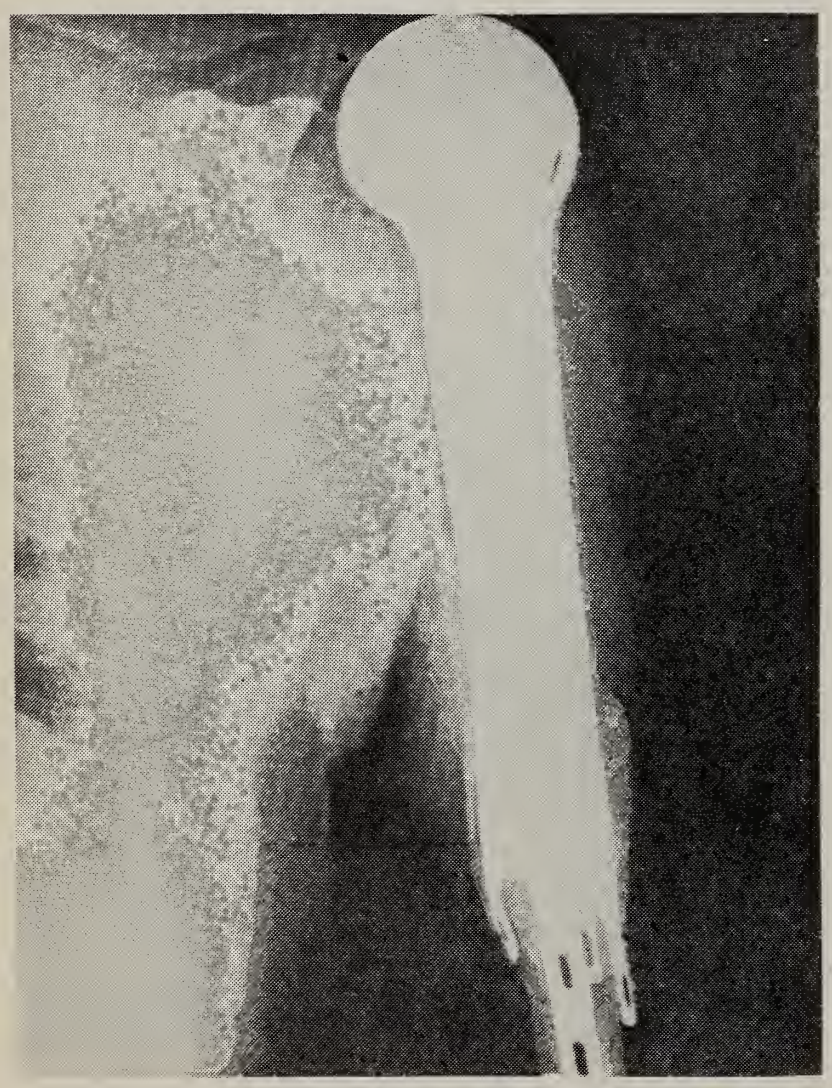
This last X-ray demonstrates a large lesion in the upper humerus which is a giant cell tumor of bone. (Figure VII). The histology of this lesion was a low grade tumor and we subsequently operated on this patient putting in a prosthesis (Figure VIII).

Figure 7



Large expanding osteolytic lesion of humerus (giant cell tumor of bone).

Figure 8



Prosthesis for resected giant cell tumor of bone.

Dr. Barlow: Thank you very much for these interesting cases. I think that for all of us these cases demonstrate how we can learn from our errors and point out the pitfalls in diagnosis of bone lesions. Although it is often said (but not always practiced) the fact remains that a close cooperation between pathologist, radiologist and orthopedic surgeon is absolutely necessary for the accurate diagnosis and treatment of bone lesions.

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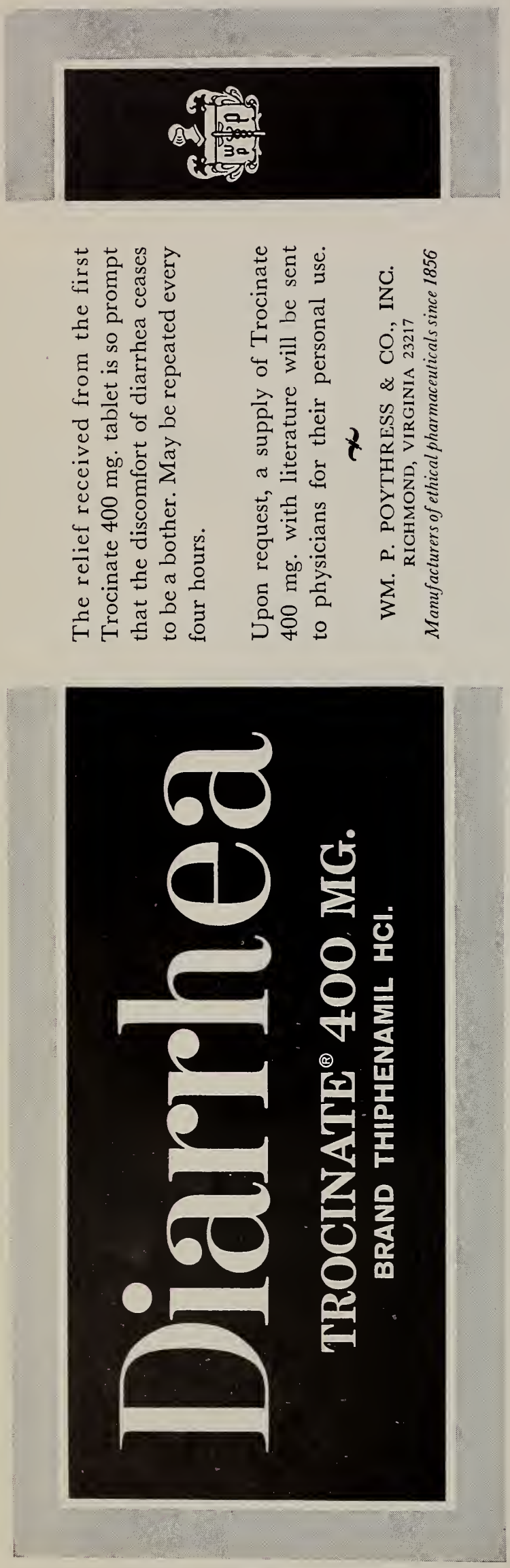

COUNCIL MEETING

1:00 P.M. Saturday — Ramada Inn
September 28, 1968 — Sioux Falls, South Dakota

The meeting was called to order by E. T. Lietzke, M.D., Chairman of the Council. Those present for roll call were Doctors: John T. Elston, R. H. Quinn, A. P. Reding, G. E. Tracy, W. R. Taylor, G. Robert Bartron, Bruce Lushbough, W. B. Odland, Harvard Lewis, E. T. Lietzke, Clark Johnson, C. E. Tesar, M. R. Cosand, J. B. Gregg, David Buchanan and B. J. Begley.

Dr. Reding moved to dispense with the reading of the minutes of the last meeting inasmuch as they were published in the Journal. The motion was seconded by Dr. Tracy and carried.

Dr. Lushbough reported on the activities of the Commission on Scientific Medicine. A discussion was held concerning the Black Hills resolution which recommends that the annual meeting in 1970 or 1971 be split into a scientific session to be held in Rapid City, and a business session to be held elsewhere. The Council requested that Mr. Erickson obtain the registration figures from the state of Wyoming inasmuch as their meetings are held in a resort area. Dr. Johnson moved that the Council approve the Black Hills resolution and forward it to the House of Delegates for its consideration. The motion was seconded by Dr. Reding and carried. Dr. Lushbough moved that the Council accept the report of the Commission on Scientific Medicine. The motion was seconded by Dr. Elston and carried.

COMMISSION ON SCIENTIFIC MEDICINE

August 17, 1968 — Executive Office
10:00 a.m. — Sioux Falls, South Dakota

The Commission on Scientific Medicine met at the South Dakota State Medical Association building in Sioux Falls, South Dakota, at 10:00 a.m. on Saturday, August 17, 1968. Present for roll call were Doctors: E. Heinrichs, H. Streeter Shining, H. Phil Gross, David Studenberg and James Larson. Dr. Larson was selected as Acting Chairman. The minutes of the March 9, 1968, meeting were read and approved.

The critique of the scientific portion of the 1968 annual meeting was then held. Bad points which were mentioned were:

1. The space available for scientific exhibitions was inadequate. This was recognized by all members of the committee, and it was felt that this was recognized prior to the meeting and constituted no problem. The space available for the 1969 meeting is regarded as adequate.
2. Starting of the speakers on time. It was felt that one of the most interesting talks of the entire meeting was delayed and started at a time when it was supposed to have been finished. The possibility was discussed of using a bell to control the speakers, giving them at the time the bell rang five minutes in order to finish their presentation so that the meeting might stay on time.
3. It was felt that since the meeting is held under the direct control of the Scientific Commission it would probably be better if the Chairman of each session was a member of the Scientific Commission. In this manner the members would know what the time sequence of events for the entire session was supposed to be and could adhere more stringently to the requirements.
4. The Black Hills Resolution. It was the recommendation of the Scientific Commission that the Black Hills Resolution be given a trial at a convenient time, more likely 1970 or 1971. This recommendation is to be forwarded to the 1969 House of Delegates.
5. The recommendation from the Aberdeen Medical Society. The plan is to return to the specialty meeting in 1969 anyway, and no further action is needed.

6. The statement from the Commission regarding the efficacy and advisability of INH prophylaxis. Dr. Heinrichs gave a report on the forthcoming issuance of this statement from the Commission, a copy of which will be sent to each member of the Commission prior to its being sent out from the state office.
7. The Aescalapius Award. The Aescalapius Award from Mead-Johnson has been discontinued and will no longer be available.
8. The resolution from the Pediatric Society regarding the central register of birth defects. A motion was made by Dr. Studenberg and seconded by Dr. Shining that the Commission on Scientific Medicine go on record as approving this.

The planning for the 1969 annual meeting then began. It was decided to have a format in which there would be four individual speakers in the morning session followed by an afternoon session consisting of seminars. It was decided to coincide the speakers in the morning with the seminars in the afternoon so that they would only have to be in town for one day. The speakers in the morning session will be:

1. Football injuries. The doctor who presents this will be obtained by Dr. H. Phil Gross.
2. Genetics. The speaker will be obtained by Dr. E. Heinrichs.
3. Chest Diseases. The speaker will be obtained by Dr. Shining.
4. Hallucinogenic Drugs. The speaker will be obtained by Dr. Richard Leander.

The afternoon session will be devoted to seminars which will be (1) Athletic Injuries; (2) Genetics; (3) Chest Diseases; (4) Psychiatric Emergencies. The speakers from the morning session will be joined by individuals invited by the individual members of the Scientific Commission to serve as a panel to discuss these subjects.

The Tuesday morning session will consist of a speaker on hypertension to be obtained by Mr. Erickson, a speaker on cancer chemotherapy to be obtained by Dr. A. C. Vogele, and a speaker on the prevention of erythroblastosis in newborns to be obtained by Dr. E. Heinrichs. These individuals on Tuesday morning will be offered to the members of the specialty societies as a speaker for their sessions which will follow the morning sessions.

There being no further business the meeting was adjourned.

Dr. Begley reviewed the report of the Commission on Internal Affairs. The Council discussed the resolution from the Ophthalmology and Otorhinolaryngology Academy concerning the financial support by the State Association for specialty society meetings during the annual meeting session. The Council requested that the executive office furnish each specialty society with a speaker agenda at the earliest possible date so that such societies might contact these speakers for their programs if they wish to do so. Dr. Taylor moved that the Council accept the report of the Commission on Internal Affairs. The motion was seconded by Dr. Johnson and carried.

MINUTES OF THE COMMISSION ON INTERNAL AFFAIRS

1:30 p.m. Executive Office
August 17, 1968 Sioux Falls, South Dakota

The meeting was called to order by Dr. B. J. Begley, Chairman. Present for roll call were Drs. B. J. Begley, C. Rodney Stoltz, and David Seaman. Dr. E. A. Rudolph was a guest.

The Commission discussed the possibility of instituting central billing through the State Association office for State and American Medical Association dues. Dr. Stoltz moved that the Commission recommend to the Council that the matter of direct billing not be implemented at the present time inasmuch as there was no pressing need expressed for the institution of this system. The motion was seconded by Dr. Seaman and carried.

The letter from the O & O Academy was considered by the Commission which concerned financial support by the State Association for specialty society meetings during the annual session. Dr. Seaman moved that the final list of guest speakers as obtained by the Commission on Scientific Medicine be provided to the presidents of the various specialty groups so they may contact them to appear on the specialty meeting programs if they care to do so. The motion was seconded by Dr. Stoltz and carried.

The Commission considered the matter of the Association providing funds for the travel of the Dean of the Medical School. No action was taken.

Mrs. Howard Wold and Mrs. A. P. Reding, representing the Woman's Auxiliary met with the Commission to discuss the Benevolent Fund. Mrs. Wold had surveyed several institutions in the state to determine the need for loan funds in the para-medical careers.

Dr. Stoltz moved that the Commission recommend to the Council that inasmuch as the Commission feels that there is a need for a loan fund in the para-medical fields, that we seriously consider going into a program of this type. The Commission further recommends that the mechanics of such a program be worked out by a joint committee of the Auxiliary and the Medical Association. The motion was seconded by Dr. Seaman and carried. Dr. Begley suggested that Dr. Stoltz and Dr. Lenz continue to work on this project, and have a report for the Commission at the next meeting on the proposed procedures and policies to implement this recommendation. Mrs. Wold and Mrs. Reding will represent the Auxiliary on the committee.

The Association financial report was reviewed. No action was taken and the meeting adjourned at 3:30 p.m.

Dr. Tracy reported on the activities of the Commission on Medical Service. The Council briefly discussed the immunization program and recommended to the Commission that Mr. John Jones be appointed as consultant to the Rural Health Committee rather than as a member. Dr. Lewis moved that the Council accept the report of the Commission on Medical Service. The motion was seconded by Dr. Cosand and carried.

MINUTES OF THE COMMISSION ON MEDICAL SERVICE MEETING

10:00 a.m. Executive Office
August 17, 1968 Sioux Falls, South Dakota

The meeting was called to order by G. E. Tracy, M.D., Chairman. Present for roll call were Drs. G. E. Tracy, W. B. Odland, B. C. Gerber, William R. Taylor, T. H. Willcockson, L. H. Amundson, Warren Jones, and Roland F. Hubner.

The Commission discussed the resolution submitted by the Pediatric Society concerning a study of the Crippled Children's Program in South Dakota. The following physicians were appointed to a study committee and will be asked to report back at the next Commission meeting: W. F. Stanage, M.D.; H. Phil Gross, M.D.; C. E. Tesar, M.D.; Robert E. Van Demark, M.D.; and Richard Hosen, M.D.

A discussion was held on a possible pre-school vision and hearing testing program in South Dakota, as submitted by the O & O Academy. Dr. Willcockson moved that the Commission recommend to the Council that the South Dakota State Medical Association approve the program that has been outlined by the South Dakota Academy of Ophthalmology and Otorhinolaryngology; and that J. B. Gregg, M.D. be placed in charge of the program. The motion was seconded by Dr. Taylor and carried.

A letter from Dr. E. H. Heinrichs concerning the health care of the Indian population in South Dakota was considered, but action was tabled for the time being.

Mr. Blackie McGreevy appeared before the Commission and discussed the group life insurance program and the proposal which has been offered to the

Association by Union Central Life Insurance Company to replace the present program. After considerable discussion, Dr. Willcockson moved that the Commission refer the matter to the Council without recommendation. The motion was seconded by Dr. Jones and carried.

The Commission considered the resolution adopted by the House of Delegates concerning the Medical School at the University of South Dakota, which has been referred to the Commission for implementation. He stated that contacts should be made with the legislators prior to the 1969 session, and suggested that family doctors be utilized. A brochure is being formulated which will provide the necessary facts to emphasize, to both the legislators and lay people, by the doctors in the State. It was decided that two members of the Commission on Medical Service, R. F. Hubner, M.D. and W. B. Odland, M.D. will act as a liaison with the Medical School Endowment Board of Directors in implementing this campaign along with Mr. John Zimmer and Dr. George Knabe. It was also suggested that one physician in each District meet with this group for a briefing on the procedures to follow and then carry the information back to his own district so the individual doctors could work in their own areas. A meeting will be scheduled with the Endowment Association Board and the liaison committee as soon as possible in Vermillion.

Dr. Gerber reported on activities of the Farm Safety Council. He passed out a copy of the suggested form to report farm accidents which will be utilized by the physicians in the State, if approved. Dr. Gerber moved that the Commission recommend to the Council that implementation of this form and the accident reporting program be approved by the State Medical Association. The motion was seconded by Dr. Jones and carried. Dr. Gerber will also prepare a notice for the Grab Bag and the Journal concerning this program. It was also suggested that if the program is approved by the Council, each Councilor encourage the physicians in his District to complete and submit the forms to the Farm Safety Council.

Dr. Gerber discussed legislation concerning the slow moving vehicle emblem which will be introduced by the Farm Safety Council. Dr. Gerber moved that the Commission recommend to the Council that the South Dakota State Medical Association support and endorse this legislation when it is introduced. The motion was seconded by Dr. Amundson and carried.

Dr. Hubner moved that the Commission recommend the use of a postage meter plate by the State Medical Association during Farm Safety Week and encourage other companies to do the same. The motion was seconded by Dr. Odland and carried.

Dr. Tracy discussed the immunization program carried on in Watertown and the possibility of a tetanus program being instituted in the State. The Commission suggested that a procedure be adopted which insures adequate follow up on those receiving the shots. Dr. Tracy suggested that Mr. John Jones be named to the Rural Health Committee of the Commission as a resource person.

The Commission considered the request to establish guidelines for the evaluation of medical reports received by the Welfare Department under the Aid to the Disabled Program. It was moved by Dr. Willcockson that Dr. Tracy investigate the present procedure utilized, the changes which might be made, and report this information to the Council for their consideration. The motion was seconded by Dr. Jones and carried.

The meeting adjourned at 12:15 p.m.

Dr. Buchanan reported on the activities of the Commission on Liaison With Allied Organizations. He briefly discussed the meeting of the Commission and members of the Bar Association for the purpose of planning a medical-legal meeting. Dr. Buchanan recommended that the Council approve the proposed meeting format which would include a traveling team of two physicians and two trial attorneys who would put on a one day meeting in four areas of the state. Dr. Tracy moved that the Council authorize the Commission to proceed with plans for a medical-legal meeting. The motion was seconded by Dr. Lushbough and carried. Dr. Reding moved that the Council accept the report of the Commission on Liaison With Allied Organizations. The motion was seconded by Dr. Tesar and carried.

COMMISSION ON COMMUNICATIONS

10:00 a.m. Executive Office
August 17, 1968 Sioux Falls, South Dakota

The meeting was called to order at 10:00 a.m. by R. E. Van Demark, M.D., Acting Chairman. Those present for roll call were Doctors R. E. Van Demark, B. F. King, James D. Collins, Duane B. Reaney and William O. Hanson and Robert Johnson.

The commission heard a report from Ralph Kalaher of the scout office in Sioux Falls concerning the establishment of the Sioux Falls Explorer Scout Post. Mr. Kalaher offered the assistance of the scout office and expressed the hope that the Commission on Communications and the State Medical Association would support the Medical Explorer Post.

Dr. Van Demark reported on the operation of the SOUTH DAKOTA JOURNAL OF MEDICINE and asked that each commission member submit at least one editorial per year, inasmuch as the Editorial Committee for the Journal was dissolved at a previous meeting. Dr. Van Demark recommended that each district submit at least one editorial per year.

A discussion was held concerning Community Health Week and the packet of information received from the American Medical Association. The commission decided that "health careers" should be the theme carried out during Community Health Week.

Mr. Johnson reported on plans for the State Fair booth and stated that at least one commission member would be in attendance at the booth each day. Dr. Hanson volunteered the services of Huron physicians to assist in manning the booth on days when only one commission member is present.

The "Doctor Tell Me" program was discussed and the commission recommended that the state office write to each district informing the members that such a program is being established. The commission also recommended that either "canned tapes" from Minnesota be used or that the state office request a volunteer from each district to be represented on the program. The commission decided that each district should decide which type of program they would prefer.

The latest edition of the AMA's film "Horizons Unlimited" was shown to the commission. The commission then recommended that a notice be included in the Grab Bag informing all physicians that this film is available for their use by contacting the executive office. The commission urged each member to use this film in his local area during high school career days.

The meeting was adjourned.

Mr. Erickson briefly summarized the report submitted by the Commission on Communications. Dr. Tesar moved that the report of the Commission on Communications be accepted by the Council with one change, that the Journal invite all doctors to submit editorials rather than recommend that each district submit one editorial annually. The motion was seconded by Dr. Cosand and carried.

COMMISSION ON LIAISON WITH ALLIED ORGANIZATIONS

1:30 p.m. Executive Office
August 17, 1968 Sioux Falls, South Dakota

The meeting was called to order by David Buchanan, M.D., Chairman of the Commission on Liaison With Allied Organizations. Those present for roll call were Doctors: David Buchanan, A. J. Tieszen, Mary Sanders and Gerald Tuohy. Also attending was Robert Johnson, Director of Professional and Public Relations.

Mr. Harold Schuler, Executive Secretary of the Pharmaceutical Association, and other representatives met with the commission at 1:45 to discuss the narcotic drug laws.

The commission discussed the possibility of holding a Medical-Religious meeting during the state annual meeting each year. The commission recommended that this proposal be considered at the September Council meeting.

Inasmuch as the Bar Association was unable to send a representative to this meeting and requested another meeting date, the commission suggested the date of September 28 which would coincide with the Council meeting. At this meeting representatives of the Bar Association and the commission members will discuss the possibility of holding Medical-Legal Seminars.

The meeting was adjourned.

Dr. Gregg reported on the activities of the Commission on Legislation and Governmental Relations. Mr. Erickson stated that he had forwarded the approved AMA insurance forms for college entrance examinations to the Commissioner of Higher Education for his consideration and is awaiting a reply from him. Dr. Quinn moved that the Association endorse legislation for "Slow Moving Vehicle" emblem for farm safety. The motion was seconded by Dr. Reding and carried. It was determined by the Council that the State Association will sponsor a bill changing the Medical Practice Act. A discussion was held concerning the Association sponsoring a bill along with the veterinarian and dental societies for state loans to students. No action was taken. The Council discussed supporting an appropriation request for additional funding and a separate budget for the Medical School. No action was taken. Dr. Quinn moved that Dr. Gregg, Mr. May, Mr. Erickson and Members of the Commission on Legislation and Governmental Relations be empowered to act on any legislative matters in instances when time does not permit a meeting, correspondence or call to the Council. The motion was seconded by Dr. Reding and carried. The Council discussed the structure of the Department of Health and the possible retirement of Dr. Van Heuvelen as director. The Council instructed Mr. Erickson to contact Dr. John Lowe to see if he has his masters degree in Public Health. Mr. Erickson is to obtain information on the necessary qualifications, salary, and mandatory retirement age for the Director of the Health Department. A list of possible candidates for director, those who are interested in the position and who qualify, should be formulated. Dr. Cosand moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Taylor and carried.

COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

1:30 p.m. Executive Office
August 17, 1968 Sioux Falls, South Dakota

The meeting was called to order by J. B. Gregg, M.D., Chairman of the Commission on Legislation. Those present for roll call were: Doctors R. J. Foley, J. B. Gregg, R. H. Hayes, R. W. Honke and Howard Wold. Others present were Gerald Tuohy, M.D., E. H. Heinrichs, M.D. and Richard Erickson. There were no minutes of preceding meetings.

The Commission discussed the resolution concerning the Regional Medical Program. After considerable discussion it was the concensus of the Commission that it is not only not feasible but not necessary for further consideration of the subject of separation of the states of South Dakota and Nebraska in the Regional Medical Program. Considering the changes which are now proposed and already accomplished in enhancing the status of South Dakota in the program, the need for separation no longer exists.

A discussion was held concerning mandatory reporting. The position of this association in the past has been that of not favoring mandatory reporting of any health defects. Dr. Hayes moved that the South Dakota State Medical Association go on record as favoring the report of the American Medical Association regarding this matter. The motion was seconded by Dr. Honke and carried.

The Good Samaritan Law revisions were discussed. Dr. Hayes moved that the South Dakota State Medical Association not support the bill as written but consider approval if written in different form. The motion was seconded by Dr. Foley and carried.

The Commission discussed the resolution concerning the South Dakota State Department of Health. It was the opinion of the Commission that the South Dakota State Medical Association must be kept constantly abreast of the situation in the State Health Department. This Association must be interested and provide assistance in the recruitment and selection of the person who heads this health department. Dr. Hayes was appointed to discuss this matter with Dr. Van Heuvelen to determine the future of the Health Department. He will report back to this commission soon.

A discussion was held concerning the proposed inhalation therapy bill by Dr. Tuohy and Dr. Heinrichs. Dr. Wold moved that if the inhalation therapists sponsor a bill such as that proposed, the South Dakota State Medical Association should endorse the concept of the bill as written. The motion was seconded by Dr. Hayes and carried.

The resolution of the South Dakota Academy of Ophthalmology and Otolaryngology relating to speech and hearing personnel was discussed and the resolution accepted.

The Commission discussed revision of the Medical Practice Act. Dr. Hayes moved that the South Dakota State Medical Association sponsor the revisions in the Medical Practice Act. The motion was seconded by Dr. Wold and carried.

A discussion was held concerning an abortion bill. The stand of the South Dakota State Medical Association in the past has been that it neither endorses nor fights such a bill, but if introduced will appear in consultation. It is asked that the American Medical Association guidelines of 1967 be followed. It was moved by Dr. Hayes that there be no change in the attitude of the South Dakota State Medical Association from its previous position in this matter. The motion was seconded by Dr. Wold and carried.

The Commission briefly discussed the possible licensing bill for psychologists. It was determined that if such a bill is introduced, the Commission members will be canvassed by mail for opinions and position statements.

A discussion was held concerning the redundant, excessively differing college physical examination forms provided by the institutions of higher learning of this state. This matter has been studied extensively by the Commission on Medical Service in the past and appropriate recommendations have been made to the individual institutions by the South Dakota State Medical Association. The Commission recommended that the Commissioner of Education of the State of South Dakota be apprised of the matter and his assistance sought in the development of uniform physical examination blanks for all institutions in the state. The executive office will make the necessary contacts and inquiries regarding a solution to this problem.

The Commission recommended that Mr. Erickson, Mr. May, Dr. Gregg, and physician members of the legislature be empowered to act on legislative matters in instances when time does not permit a meeting, correspondence or call to commission members.

The meeting was adjourned at 4:30 p.m.

Dr. Tracy reported on the affairs of the South Dakota Medical School Endowment Association for the information of the Council. The Endowment Association decided to send a letter to the Legislative Research Council offering the Association's cooperation. The Endowment Association recommended to the Council that a letter be forwarded to the Board of Regents from the South Dakota State Medical Association requesting that the Association be notified of any meetings at which it is intended to discuss the budget or other matters relative to medical education in South Dakota so a representative may attend. Dr.

Lewis moved that the Council accept the report of the South Dakota Medical School Endowment Association. The motion was seconded by Dr. Cosand and carried.

Mr. Blackie McGreevy and Mr. William Johnson of the Union Central Life Insurance Company discussed the group life program sponsored by the Association since 1955. They announced the company's decision to exercise its right and drop the group plan and they asked the Council's endorsement of an individual term insurance plan. Dr. Taylor moved that the Association endorse the Union Central Life Insurance term policy. The motion was seconded by Dr. Lushbough and carried.

Mr. Randall Tuffs discussed an offer by the Blue Shield Board of Directors to have Blue Shield sponsor the cocktail hour at the annual meeting. Dr. Bartron moved that the Council accept Blue Shield's offer. The motion was seconded by Dr. Quinn and carried.

Mr. Tuffs discussed the operation of the Title 19 program and the problems involved. Dr. Cosand moved that a letter be sent to the Welfare Department expressing the displeasure of the physicians throughout South Dakota concerning the Welfare Department's inability to determine the eligibility of recipients under the Title 19 program, and requesting that the necessary action to correct this situation be undertaken. The motion was seconded by Dr. Reding and carried. The Council directed that this letter be sent to the Welfare Department, the Governor and the Kansas City district office.

Mr. Erickson discussed a request from the Board of Pharmacy to distribute the list of DACA drugs to physicians in South Dakota. Dr. Cosand moved that Mr. Erickson write the Board of Pharmacy and request 500 copies of the list to be mailed to the doctors in South Dakota. The motion was seconded by Dr. Johnson and carried.

The Council briefly discussed the report from the Vocational Rehabilitation Division. It was decided that Mr. Erickson should invite Mr. Ben Hins, Director of the Department, and S. M. Brzica, M.D. to appear and discuss this situation at the Winter Council meeting.

Mr. Erickson reported on the letter received from the Family Health Foundation denying the application for a grant for a "South Dakota Nontraditional Medical School Feasibility Study." No action was taken.

Mr. Erickson requested that he be informed of physicians interested in serving on various AMA councils and committees. The Council suggested that a list of the vacancies be published in the Grab Bag so that interested physicians can contact the executive office and have their names submitted. The Council also requested that Mr. Erickson bring a list of all the AMA councils and committees to the Winter Council meeting.

Dr. Gregg briefly discussed the use of credit cards to pay physicians' fees. Dr. Tracy moved that physicians should decide for themselves whether or not they wish to accept credit cards. The motion was seconded by Dr. Cosand and carried.

Mr. Erickson discussed the problem of getting physicians to attend the various commission meetings. Dr. Elston moved that the Commission on Internal Affairs study the possibility of combining the Commission on Communications and the Commission on Liaison With Allied Organizations and possibly the Commission on Internal Affairs without decreasing the number of members. The motion was seconded by Dr. Lushbough and carried.

Dr. Reding presented a resolution from the Council on Rural Health which states:

WHEREAS, organized medicine has long endorsed the concept of home health care and current health needs require the most economical use of health manpower and facilities in rural and urban areas consistent with quality care; and

WHEREAS, state and local medical societies are properly concerned with the availability and adequacy of rural health care services which support the work of the physician; now, therefore, be it

RESOLVED: That the South Dakota State Medical Association formulate and help to implement, through the county medical societies, a program to encourage physicians to utilize rural home health services with local control as they deem advisable in their communities. Dr. Tracy moved that the Council adopt this resolution. The motion was seconded by Dr. Cosand and carried.

Dr. Reding presented a resolution passed by the American Medical Association concerning the certification of rural hospitals for Medicare which states:

WHEREAS, In order to participate as a hospital in the health insurance program for the aged, PL 89-97 states a number of specific requirements which an institution must meet and, additionally, authorizes the Secretary of Health, Education, and Welfare to prescribe other requirements considered necessary in the interest of health and safety of beneficiaries. Pursuant to such authority, the Secretary has by regulation prescribed numerous conditions of participation with which there must be substantial compliance.

WHEREAS, These conditions of participation are generally stated to be related to the quality of care and the adequacies of the services and facilities which the institution provides. Many of such conditions, however, are equated to standards applicable to the large urban hospital and are unrealistic, economically unfeasible, and unnecessarily rigid in terms of the small rural hospitals which have in the past well served the medical needs of their communities and meet the standards of the state licensing agency. Lack of approved hospitals in the rural areas will often result in denial of the benefits of the law as many beneficiaries among the rural aged will still go to their community hospital or will altogether forego hospitalization to their medical detriment rather than be relegated to a distant institution in a strange environment and removed from family reassurances and the care of their own physician. The provision of the regulations for special certification, while recognizing the problem, does not provide a satisfactory solution; therefore be it

RESOLVED, That the American Medical Association urge the Secretary of Health, Education, and Welfare to reassess the regulations prescribing conditions of participation and adopt a more realistic and humanitarian approach toward certification of small, rural area hospitals.

RESOLVED, That state medical associations and state licensing and certifying agencies establish and maintain close surveillance of the certification and accreditation problems of small hospitals. Dr. Tracy moved that the South Dakota State Medical Association endorse the AMA resolution concerning certification of rural hospitals for Medicare. The motion was seconded by Dr. Reding and carried.

The Winter Council meeting was set for Saturday, January 11, 1969, at 1:00 P.M. in Sioux Falls.

The meeting was adjourned at 8:00 P.M.

The University of South Dakota has an extensive collection of historical materials about the Dakota Territory and the state of South Dakota. If you have any books, maps, brochures, pamphlets or descriptive literature about a community, an organization or an industry in South Dakota, the University would appreciate receiving such material for its collection. Please forward any information on personal collections or materials which you have to Mr. Virgil F. Massman, Director of Libraries, The University of South Dakota, Vermillion, South Dakota.

WE CAN DO MUCH BETTER*

Mr. Chairman and members of our medical societies! I shall avoid the usual introductory jokes because my speech is going to be very short. I will not flatter you as any good speaker should. Rather I will gently point out that medical meetings should return to being medical meetings. This is an odd statement you will readily admit, but I think you will agree with it. I fear that commercial exhibits, women's auxiliaries, door prizes, committee meetings, golf tournaments, breakfasts, delegate meetings, shopping, and shows and such like are downgrading the intellectual content of our professional meetings. Unless the subject is sex, most speakers draw token attendance. Too often the members only read in the newspapers what was presumably presented at the meeting. The scientific program is something to be endured rather than savored. Speakers seldom do their best in such an atmosphere of indifference.

There are, of course, many meetings in which this is not true, but these are usually the small ones and largely for specialists or academicians. This is more the pity because it is the bulk of physicians confronted with the multiple problems of medicine who need stimulation and education most: for example, those who attend chiefly the state society meetings where too often the intellectual content is adequate but, as someone said, boredom is as plain as the dozes on their faces.

Physicians do indeed need both a forum and a cocktail lounge to discuss their political views. Their wives enjoy the activities of auxiliaries, and pharmaceutical manufacturers need a place to exhibit their wares. But in all the hubbub, the speaker's message is lost. He is becoming something to be tolerated, a holdover from a vanishing milieu. If the "medium is the message," the human form is becoming obsolete. While no one enjoys a highball more than I, let's not forget that 76% of the body is water and there are those among us who should try to keep it so!

Guest speakers often receive even shorter shrift. Let me remind you of a few of the trivia indicative of this trend. Speakers are assigned the hotel room remaining after the early-arriving convention members and especially the officers have been made comfortable. The hotel front desk knows who is booking the convention and paying the bills! No one takes charge of the guest speaker, simply because everyone is too busy with his own activities. He may not even be invited to the presidential cocktail party or dinner. In short, he is treated as a stranger, especially by the paramedical contingent who look on the speaker as the one who detracts from the exhibits or, in the case of the wives, the one who makes her husband feel guilty. This is unlike doctors' usual behavior, because ordinarily they are friendly, hospitable, considerate people. In fact, I know of no part of society that so genuinely represents this fine human trait.

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* Reprinted with permission from **Modern Medicine,** June 17, 1968.

But these characteristics are being lost at our big meetings due chiefly to the emphasis on extracurricular activities.

Speakers are now retaliating in kind. Recently I spoke at a state meeting where one of the featured speakers did not bother to come or to send a substitute. I talked to him later and he told me that he would have come "if it had been convenient." What an attitude; yet I know what he meant!

There are many minor things to find fault with, but the important thing is to restore the principal reason for a medical meeting. This can be done quite simply if we all give it a little thought. If we continue the practice of allowing the public to take over the exhibits, the hospitality committee to keep everyone up too late, and committees and golf to monopolize the time of the members, then let's not try to save face by going through the motions of holding scientific sessions.

This is no exaggeration, because many meetings are getting perilously close to just this. I fully recognize the need of some to carry on the business of the society, though most of it should have been done before the convention. But the mechanics should be kept in proper perspective. We must restore the interest, the dignity, and the vitality of the intellectual content of our professional societies.

Gentlemen, I thank you for listening to a very nonprofessional and nonintellectual complaint. You did not pay my expenses for this but, as so often with me, you pays your money and takes your chances!

LETTERS TO THE EDITOR

Editor
S. Dak. Journal of Medicine
Sioux Falls, South Dakota

Oct. 28, 1968

Dear Editor:

Another plea for funds has crossed my desk, courtesy of SoDaPac. I consider this to be a perfectly proper thing and certainly would not interfere with the right of any individual to support the candidate of his choice. However, I recollect from reading the minutes of the council meetings that the S. Dak. Medical Association has been donating a sum of several hundred dollars yearly to the above organization. It is irrelevant to state that this is for administrative expense and not for candidate support since the net effect is to free more funds for direct support, and thereby comes the rub. No matter how I view the situation I still must conclude that some small part of my yearly dues assessment is used to support candidates, some of whom I would not voluntarily support, but rather would actively oppose. Granted that I am in the minority of this organization on this issue, I cannot help but think that there are other members as deeply offended as am I. Furthermore I must comment that this rather callous attitude toward the right of this or any minority to withhold support from individual candidates could and probably does constitute a deciding factor in the decision of some members to leave this state. When we are pleading in other forums for physicians to consider S. Dak., I find it incomprehensible that we would permit the above action to continue. I am sure that the average politician respects the power of a united front but sincerely believe that we stand to lose far more in individual character than we could ever gain collectively in a political sense.

Editorial comment is respectfully invited.

Yours truly,

D. R. Studenberg, M.D.

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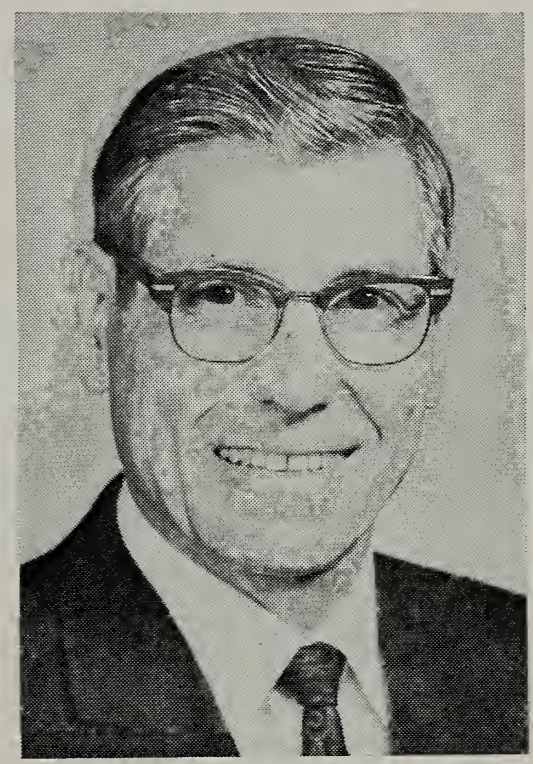
PRESIDENT'S PAGE



One of the pleasures of this holiday season is the opportunity to put aside the routine of daily affairs and in all sincerity extend to friends, old and new, best wishes for a good old-fashioned

MERRY CHRISTMAS

and a

HAPPY NEW YEAR

John T. Elston, M.D.
President

Season's Greetings

Dear Doctor:

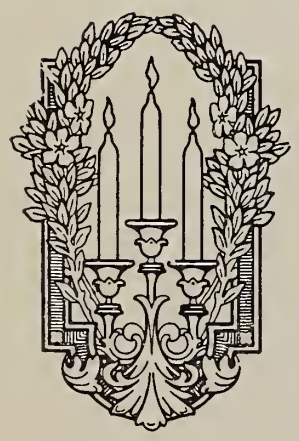
Each Christmas, we of the executive office like to sit back and review the good things that have happened to us during the year.

As always, the best of the "good things" is our relationship with you, our bosses.

So with the Season well in swing let us pause to say "Thank you" and also to wish you the merriest Christmas ever.

For the New Year, we wish you continued success, happiness, and a year of new and gratifying experiences.

Very sincerely yours,



Your Staff,

South Dakota Medical Association

South Dakota Medical Service, Inc.

This is your

MEDICAL ASSOCIATION

News Notes • Changes • Births • News

Pop's Proverb

To one of us standing in the reception line to eternity, some of the admissions would be surprising.

E. T. Lietzke, M.D., Beresford, attended the 20th Annual Scientific Assembly of the American Academy of General Practice in Las Vegas.

* * *

G. E. Tracy, M.D., Watertown, president of the South Dakota Heart Association, announced the appointment of **M. E. Sanders, M.D.,** Redfield, to serve on the Regional Heart Committee which will assist Heart Associations of the Great Plains Region in the development, coordination and evaluation of their programs of research, education and community service.

* * *

Members of the South Dakota Chapter of the American Cancer Society elected **Bernard T. Lenz, M.D.,** Huron, vice president and president elect of that group. **G. Robert Bartron, M.D.,** Watertown, was keynote speaker at the banquet.

The Woman's Auxiliary to the South Dakota Medical Association and the Aberdeen, Watertown, Madison-Brookings, Whetstone Valley and Black Hills district auxiliaries have received certificates of merit from the South Dakota Department of Health. They were cited for outstanding service to the people of South Dakota by recognizing the need for, and actively promoting, venereal disease education.

YOUR
CONTRIBUTION
TO THE
SOUTH DAKOTA
MEDICAL SCHOOL
ENDOWMENT
FUND
IS NEEDED

E. A. Hofer, M.D., Huron, and his wife attended the Olympic games in Mexico City.

* * *

Members of the Black Hills Society of Medical Technologists heard **Harold Frost, M.D.,** Rapid City, speak on "A New Look at Normal Values."

* * *

Wallace Arneson, M.D., Sioux Falls, and his wife spent two months this fall as surgeon and nurse at the Manambaro Lutheran Hospital in Madagascar.

* * *

Clifford C. Lardinois, M.D., Huron, and his wife attended a three part international gynecological pathology meeting in the Soviet Union, Hungary and Austria.

* * *

South Dakota physicians recently inducted as Fellows of the American College of Surgeons are **Robert C. McGee, M.D.,** Aberdeen; **Roger P. Millea, M.D.** and **Harold E. Fromm, M.D.,** Rapid City; **David F. Piro, M.D.,** Watertown, and **Lawrence C. Savage, M.D.,** Yankton.

H. O. Kittelson, M.D., Sioux Falls, participated in a panel discussion following the film "Parent to Child About Sex" at the Horace Mann PTA.

* * *

Marvin Hurewitz, M.D. who practiced in Flandreau for several years passed away in New York City recently.

* * *

T. H. Sattler, M.D., Yankton, and his wife attended the fifth European Congress of Cardiology in Athens. Dr. Sattler served as a delegate to the convention.

* * *

Paul Reagan, M.D., Sioux Falls, was guest speaker at the annual meeting of the South Dakota Tuberculosis and Respiratory Disease Association held in Pierre.

The Annual North Central Medical Conference was held in St. Paul November 1-2. Topics of the conference included Medicare, Health Manpower and Health Care Costs. Representatives for South Dakota included **Drs. Elston, Quinn, Begley, Gregg, Peeke, Robert Buchanan, Hohm, Redding** and **Lietzke.** Staff personnel attending included Bob Green, Chuck Tufty, Patty Butler and Executive Secretary, Dick Erickson.

* * *

About 80 members of the South Dakota Medical Assistants Society at the workshop held in Huron heard **Clifford Gryte, M.D.** speak on "Congestive Heart Failure" and **David Buchanan, M.D.** speak on "Uterine Cancer."

Three Sioux Falls physicians participated in a panel discussion on drug abuse at the state convention of the Association of Hospital Auxiliaries. They were **Richard Leander, M.D., Roy Knowles, M.D.** and **V. V. Volin, M.D.**

* * *

C. B. McVay, M.D., Yankton, was the L. Kraeer Ferguson Visiting Professor in Surgery at the Women's Medical College of Pennsylvania.

* * *

A panel at Cornell College Parents' Day included **M. E. Sanders, M.D.,** Redfield, and discussed "The New Morality."

* * *

The Eureka PTA heard a program on "Drug Abuse" presented by **George McIntosh, M.D.**

NOTICE

A committee composed of members of the Committee for the Conservation of Hearing of the South Dakota Academy of Ophthalmology and Otorhinolaryngology, representatives of the South Dakota Division of Pupil Personnel, the Speech and Hearing Clinic of the University of South Dakota, and the South Dakota School for the Deaf, has formulated criteria for the referral of pupils found with defective hearing in school tests, to their family physicians. These are as follows:

1. The hearing of all pupils tested will be **screened** at 25 db (decibels) ISO* in the frequencies of 1,000, 2,000, 3,000, and 4,000 cycles per second. If any one frequency is missed, the child will be given threshold (complete) testing by the audiometrist.
2. After finishing the threshold testing the child will be directed to his family physician according to the following criteria:

   A. **An air-bone gap** (indicating a conductive type hearing loss) of 15 db at any two frequencies of 500, 1,000, 2,000, or 4,000 cycles.

   B. **A loss of 25 db or greater at 2,000 cycles, 35 db or greater at 3,000 cycles, or 50 db or greater at 4,000 cycles,** indicating sensori-neural (inner ear) type hearing loss.

   C. **Any child with a hearing loss who is having trouble in school,** despite the fact that the loss does not meet the above criteria.

It is hoped that the physicians of this state will keep these criteria in mind to handle hearing problems which may be directed to their offices by the hearing test team, school nurses, and Public Health nurses.

* For a discussion of ISO hearing testing and other information relating to this subject, please refer to "Disturbances in Vision and Hearing Are Medical Problems! ! !", which appeared in the November, 1968, issue of the JOURNAL OF THE SOUTH DAKOTA MEDICAL ASSOCIATION.

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